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ABSTRACT

This manual endorses and adopts the sector-assessment approach for planning and managing the allocation of educational resources. Chapter 1 presents the manual's goals. Chapter 2 describes the manual's content and information sources, explains the term "sector assessment," identifies the groups that benefit from recommendations made by the assessments, and presents a brief historical overview of the education sector-assessments. The third chapter describes the systems approach and explains its usefulness for education sector-assessments. The types of expected outcomes are described, as well as an overview of the sector-assessment process. Chapter 4 describes the elements of planning: scope of work, level of effort, personnel, management, logistics, costs, schedule, and institutional relationships. Chapter 5 discusses national goals and the specific education and training objectives derived from them. Different perspectives that have influenced the analysis of education systems are discussed in terms of national goals and objectives. The sixth chapter describes the policy context of educational activities and the nature of each subsector. The kinds and quality of data necessary to support the analysis are examined, and the analytic themes used to examine each subsector are discussed. Chapter 7 describes the writing style and format of the assessment report, and chapter 8 offers suggestions for its presentation and dissemination. The final chapter offers examples of positive effects of sector assessments on educational change in Somalia and Botswana. Thirty-three tables are included. (Contains 59 references.) (LMI)

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EDUCATION AND HUMAN RESOURCES SECTOR ASSESSMENT MANUAL

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IEES

Improving the Efficiency of Educational Systems

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EDUCATION AND HUMAN RESOURCES SECTOR ASSESSMENT MANUAL

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August 1988

Florida State University
Howard University
Institute for International Research
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PREFACE

This manual was written in 1986 and 1987 by Mary Joy Pigozzi (senior author) and Victor J. Cieutat, professional staff members of the Institute for International Research in McLean, Virginia, USA. The approach and procedures advocated in this manual are well grounded in the authors' recent and extensive experience with applications of this methodology; in Botswana, Haiti, and Nepal for Pigozzi, and in Botswana, Haiti, Liberia, and Nepal for Cieutat.

Pigozzi is a specialist in educational planning, and in adult and continuing education, with a doctorate in education from Michigan State University awarded in 1986. Cieutat is an educational planner and project design specialist, who received his doctorate in psychology from Louisiana State University in 1960. Both have taught in US universities, published in development areas, and have extensive work experience in the education sectors of numerous Third World countries.

Appreciation is extended to the many colleagues with whom they worked closely in both the public and private sectors of the countries where these assessments were conducted, as well as to their expatriate colleagues on all of the teams that conducted the sector assessments cited in this manual. Particular thanks are due to Joan M. Claffey and Jay S. Salkin for their detailed remarks on a draft of this manual, and to the team in Nepal who field-tested the manual in 1987 (Chuda Nath Aryal, George H. Axinn, Barbara Butterworth, Om Prakash Gupta, Tirtha Bahadur Manandhar, Walter W. McMahon, Jay S. Salkin, Suresh Raj Sharma, and Gajendra Man Shrestha). Doug Windham made many helpful suggestions and was a major contributor to the final chapter. The following individuals provided useful comments during the early stages of the manual: Steve Anzalone, Joseph Applegate, Peter Easton, Paul Emoungu, Gweneth Eng, and Bruce Fuller. The comments and suggestions of all colleagues at the time of the field work, and during the preparation of this manual, have contributed significantly to its scope and, it is sincerely hoped, to its usefulness for continuing applications.

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1. GOAL, OBJECTIVE, AND OUTCOMES

The ultimate goal of this manual is to encourage the more efficient allocation of educational resources in developing countries. Its more immediate objective is to promote the understanding, endorsement, and application of the sector assessment approach to education and human resources planning and management in these countries. We have designed this handbook to accomplish this goal and objective, and have referenced supporting materials to help countries plan and manage education and human resources sector assessments with a minimum of external assistance.

The guidelines in this manual are based on the recent experience of the authors and their colleagues with sector assessments in Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic. These assessments have been sponsored by the Office of Education of the Bureau for Science and Technology of the Agency for International Development. We believe this experience will enable developing country policymakers, planners, and managers to prepare similar assessments that will have the following beneficial outcomes:

- Endorsement and adoption of the sector approach as an accepted way to plan and manage the allocation of educational resources.
- Policy and planning decisions that are based on the analysis of current and relevant data.
- Improvement of the efficiency and effectiveness with which internal and external resources for education are allocated, based on the assumption that these funds will not significantly increase in real terms in the near future for most developing countries.
- Baseline information available to support and assess activities within education subsectors.
- Identification of investment opportunities as well as constraints related to development within education subsectors.

- Derivation of a rank-ordered set of recommendations *within* each subsector, based on analyses of educational goals and objectives, current status, plans, needs, and constraints.
- Synthesis of individual subsector recommendations into an integrated group of specific action steps to encourage the more efficient use of local and external assistance agency resources throughout the education sector.
- Improved effectiveness of external assistance agency contributions and activities by their closer coordination with host government goals, policies, and programs.
- A commonly accepted approach and format for education sector assessments, based on a systems framework, that clarifies the organization and analysis of relevant information, enables countries with related objectives and constraints to better share problem solving ideas and approaches, facilitates updates and revisions of assessments, and enhances information exchange and networking among educators and planners in developing countries.

To describe techniques and procedures that will help achieve these outcomes, this manual is divided into the following eight additional chapters: Overview, Introduction to the Sector Assessment Approach, Preparation, Perspectives, Conceptual Framework, Writing, Presentation, and Outcomes. This manual also cites the background documents used to prepare it (Bibliography) and references a series of assessments available to illustrate and support its applications.

Users of this manual are reminded that these techniques and procedures are based on recent experience; these approaches have been improved with repeated applications, and it is likely that they will continue to evolve. As other users continue to employ this process in different contexts they will very likely make improvements on the suggestions presented here.

2. OVERVIEW

This chapter describes the manual's content and information sources, provides an explanation of the term *sector assessment*, explains what groups will benefit from recommendations identified by the assessments, and contains a brief overview of the history of education sector assessments.

2.1 INTRODUCTION

This manual provides flexible guidelines for planning and managing education sector assessments. The major sources of information for the techniques and procedures recommended in the manual are the cited references, as well as extensive experience preparing recent assessments of this type for Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and the Yemen Arab Republic. These assessments were sponsored by the governments of each country and the Office of Education of the Bureau for Science and Technology of the Agency for International Development (AID). The four most recent assessments (Haiti, Indonesia, Nepal, and the Yemen Arab Republic) were implemented through AID's Improving the Efficiency of Educational Systems (IEES) project, which began in June, 1984. This project is described by Windham in the referenced document, *Improving the Efficiency of Educational Systems (IEES) Project: Background Activities and Accomplishments.* Funds for preparing this manual were provided by the IEES project.

The manual presents sufficient detail for this approach to be used by Bachelor-level professionals in developing countries, with a few years of relevant professional experience, working on a team supplemented by two or three more highly trained and experienced specialists (e.g., an economist, an education planner, and an education analyst). The specialists in some cases may be external consultants, but in other situations this may not be necessary. Local expertise should be used for sector assessments to the greatest extent possible.

The basic structure of an assessment, as described in this manual, includes topics proven useful with prior assessments. Application of the proposed structure and approach will provide the following benefits: comparative studies will be more meaningful with a common operational framework; sharing of practical experience among developing countries will be easier; and revisions and updates will be facilitated. The approach is flexible and has easily been modified to suit unique situations within individual countries.

Published assessments and other materials referred to in this manual contain information that will be useful to members of an assessment team; for example, illustrations of how to calculate unit and cycle costs in education and how to perform analyses of student flow data are included in the Haiti and Botswana sector assessments. The following five complete assessments are referenced throughout this manual: Botswana, Haiti, Indonesia, Somalia, and the Yemen Arab Republic. These assessments and the referenced materials contain some information not readily available in published form with the appropriate scope and level of detail.

2.2 DEFINITION

A *sector assessment* is a detailed analysis of the goals and objectives, status, plans, needs, constraints, and priority target areas with rank ordered recommendations for actions in a national education system. The methodology set forth in this manual is based on a systems approach to education. Thus, all components of the sector are analyzed interdependently, in relation to one another, and in relation to the broader context, especially the overriding economic conditions and the existing capacity to manage educational activities. Objectives of the assessment are to encourage the use of relevant and current information for planning, policy formulation, and resource allocation that will improve efficiency throughout the entire education sector. This is very different from evaluation, which is an appraisal to determine significance or value of a single activity or set of activities.

A *subsector assessment* is the description and analysis of a component (i.e., subsector) of the education sector. For example, subsector assessments might address primary, secondary, vocational, higher, or nonformal education. The integration, analysis, and synthesis of all subsector assessments comprises a sector assessment.

2.3 BENEFICIARIES

The *immediate beneficiaries* of a sector assessment will be the host governments that use the results of the assessment to assist with policy formulation, planning, and the allocation of resources. The *ultimate beneficiaries* will be all students, both young and adult, whose knowledge, skills, and attitudes are formed by the education sector programs. *Ancillary beneficiaries* will be the external assistance agencies who use the results of the host governments' sector assessments to help them understand more fully the context within which they are working and encourage them to follow government priorities for the allocation of their education resources more efficiently and effectively.

2.4 ASSESSMENT OF THE EDUCATION SECTOR

Education has been viewed historically as a socially desirable end in itself, with an often unstated assumption that it is a basic human right. It often has been assumed that more education is better education, and quantitative expansion of the formal education system has been a major objective of most development plans. Education has usually been regarded as equivalent to formal schooling. The nonformal sector and the relationships between education and employment have received relatively less emphasis in many developing countries because of this.

As education systems have developed and expanded there have been attempts worldwide to gain a better understanding of their strengths and weaknesses. In some cases sector assessments and sector analyses were a means of arriving at this understanding.

Many education sector assessments have been conducted over the last 25 years, but it is not relevant to review all of these here. It is useful, however, to cite examples of the range of these assessments to better understand the evolution of the type described in this manual and the various applications that have been made.

The history of education sector assessments is not very well documented and, unfortunately, many of the reports are no longer available. The examples given here are those that are fairly easily accessible. There is also some emphasis on those that were supported by AID, again due to availability of documentation.

A number of perspectives can be employed in a sector assessment regardless of the methodology used. In *The Development of Nationwide Learning Systems*, Harbison asserts that three basic approaches to such studies have been used: social demand, needs for national development, and employment generation. He notes that the second approach can either be broadly specified or more narrowly defined by an emphasis on manpower needs or economic returns to investments in education. This range of perspectives is more fully discussed in Chapter 5.

The research for the Ashby Commission report (*Investment in Education*) was done in 1959. It reviewed the entire system of formal education in Nigeria immediately before independence and was one of the earliest applications of a manpower needs approach. Five years later USAID sponsored a sector review in Nigeria oriented toward national development needs and employment generation. This assessment, *Nigerian Human Resources Development and Utilization*, was unusual for its time in that it included nonformal as well as formal education.

A Government-appointed Commission began a survey of education in India in 1964. This group produced the *Report of the Education Commission (1964-1966): Education and National Development*, which reflects a combination of the social demand approach and the needs for national development approach.

Tanzania conducted an education sector survey to prepare for each of its first two five-year development plans in the 1960s. These surveys were conducted with a minimum of external assistance and, in light of Tanzania's strong desire to have its education system support its national development needs, they are good examples of the manpower needs approach. The Overseas Liaison Committee conducted an assessment of formal and nonformal education in Tanzania in 1971 for the World Bank, *Tanzania: A Nationwide Learning System.* The development needs approach employed was very broad and included training programs sponsored by employers, as well as formal and nonformal education programs.

Florida State University conducted an AID-sponsored assessment of education in Korea in 1971. This assessment, *Systems Analysis for Educational Change: The Republic of Korea*, emphasized the economic returns approach as a basis for selecting alternative education investments. It is also noted for its recommendation that middle schools change to a system of individualized education.

The social demand approach was a major influence on a number of sector assessments sponsored by the Bureau for Latin America of AID. Robinson has written extensive descriptions of the methodology, which stressed education efficiency as well as improved quality and access. These assessments were conducted in the late 1960s and 1970s.

From the documentation available on the education sector assessments sponsored by the Bureau for Latin America, it is clear that attention was directed to the entire sector. For example, the *Paraguay Education Sector Assessment 1977* consists of fifteen chapters, one of which is devoted to policy analysis. Education sector assessments for Guatemala and El Salvador, also sponsored by AID, were completed in 1978.

In the early 1970s, the International Labour Office (ILO) conducted a series of three assessments based on the employment generation approach. These studies were conducted in Kenya, Sri Lanka, and Colombia, and covered more than the education sector. Their conception of the sector is broad, including nonformal education and vocational training, although these are not discussed in much detail. These studies are interesting because they place education in the larger social, political, and economic context and consider the relationships between education and employment.

The World Bank has conducted a wide range of reviews or assessments of the education sector. It is noted for its ability to produce comprehensive and concise overviews of education sectors in a relatively short period of time. Not all of their reviews have been produced in a very limited timeframe, however. For example, a comprehensive and extensive sector review was conducted in Ethiopia in 1972. The Ministry of Education and Fine Arts implemented the study with financial support from the World Bank. This assessment is particularly noteworthy because of the way in which it was conducted--the majority of participants were Ethiopian. The World Bank has also been a leader in synthesizing findings from its separate country activities to develop its policies with regard to the education sector.

AID's Bureau for Science and Technology began sponsoring activities in 1982 that formed the foundation for the Improving the Efficiency of Educational Systems (IEES) project. The first major field activity was an assessment in 1982 of the education sector in Liberia. The methodology devised for that assessment, with a few procedural and structural changes, has since been used in Botswana, Haiti, Indonesia, Nepal, Niger, Somalia, and the Yemen Arab Republic. The methodology was based on work by Harbison (1973), Robinson (1975), and the World Bank (1980) and is described in a draft document by Cieutat (1983) that has been used as the basis for this manual.

These assessments use a development needs approach and are noteworthy in their adherence to the systems approach. The various subsectors are viewed as interactive components of an education system, and they address macroeconomic circumstances and management capacity of the sector. Experience with these assessments has served as the basis for this manual. The approaches to assessment varied somewhat from country to country in response to different needs and contexts, and these variations are discussed later in this manual.

3. INTRODUCTION TO THE SECTOR ASSESSMENT APPROACH

This chapter of the manual describes the systems approach as applied to education sector assessments, and explains its usefulness for such applications. The anticipated results from these applications are described in terms of several types of outcomes. The chapter also gives a brief overview of the sector assessment process.

3.1 SYSTEMS APPROACH

A systems approach to analysis and planning in education is the foundation of the sector assessment approach described in this manual. This approach regards the education sector as a group of interacting and interdependent components (or subsectors) which together comprise a fully integrated unit. The shared purpose of these components is to facilitate the development of human resources through learning activities. Because changes in one subsector often cause changes elsewhere in the sector, a systems approach does more than merely describe each component of the education system. In addition to describing these component subsectors, it also focuses on the complex linkages within and among subsectors and on an understanding of how and where changes in one subsector can have effects throughout the system. For example, if a country decides to provide secondary education to one-fourth of all primary school graduates at no cost to the students, this has significant funding implications that could affect the quality of all primary education if this decision would make less funds available for the primary level. The systems approach also includes an analysis of the broader social and economic context in which the education sector operates.

The systems approach to education is based on systems theory. This theory evolved in response to the limitations of the scientific method, which has strongly influenced the traditional approach to research and analysis. Essentially, *systems theory* is global in its approach: it emphasizes the relationships among system components, the system boundaries and environment, and linkages with other systems. With a systems approach all studied events are observed in their environment and their overall characteristics are considered before each component is examined individually. This differs significantly from the scientific method which begins with the analysis of simple and isolated phenomena and then proceeds, through deduction, to more complex phenomena.

A systems approach is particularly useful for assessing complex systems. This is why it is effective for understanding education systems. The complexity of the learning process and the structure of education systems makes it virtually impossible to attribute particular immediate and long-term outcomes to specific and individual educational inputs and interventions. For example, if graduates of a new primary teacher training college enter the teaching force at the same time that a new instructional system or a greatly improved textbook series is introduced, to which one of these changes should higher scores on a primary school leaving examination be attributed?

The systems approach is a practical and logical way to solve existing problems in the education sector. It consists of the following steps:

1. Identify and specify the problem.
2. Define the objective in terms of a desired outcome (e.g., improved resource allocation among subsectors, increased external efficiency, or improved learning at lower costs).
3. Select acceptable criteria that will indicate that the outcome has been achieved (e.g., scores on primary school leaving examinations increased by 10% over four years, or repetition rates reduced by one-half in three years).
4. Identify alternative ways to reach the objective (e.g., higher training standards for teachers, increased availability of textbooks, better teachers' guides, improved classroom management, or self-help programs).

5. Test the suitability and effectiveness of these alternate ways (e.g., examine costs and practicality of solutions based on results from their applications in similar situations, or try a pilot program with representative students).
6. Select and adopt one or more solutions (e.g., make a best guess as to what might work in a given situation, and what is feasible with respect to costs and available human resources).
7. Collect data about how the selected solutions might be made more effective (e.g., maintain records of costs, implementation procedures and difficulties, and outcomes according to the selected achievement criteria).
8. Use analyzed data for feedback on the extent to which the stated objective has been met.

The final step above is, essentially, the first step in the next cycle of the systems approach. The series of steps is repeated until a satisfactory group of outcomes is achieved.

The approach to assessments described in this manual is consistent with a systems approach to planning and managing the education sector. Once institutionalized, the assessment process may be viewed as an ongoing activity whereby data are continuously collected and analyzed as part of the identification and testing of solutions to problems and constraints in the sector. In this way it can serve to enhance planning and management in support of improved educational efficiency.

3.2 AN EDUCATION SYSTEM

What is the structure of a typical education system? It is complex. It consists of all components that contribute to the process and outcomes of education. The Ministry of Education and any of its regional offices are an important part of the system. This part has major responsibility for planning, management, and resource allocations throughout the entire sector. Other parts of the system include other organizational areas (subsectors) of education: (e.g., primary, secondary, higher, nonformal, and vocational education, and teacher training). There are other aspects that are also critical to the education system. These include organizations such as the Ministry of Finance and Planning, and the needs and opportunities of the overall economy.

It is unlikely that any two education systems will be identical. Some countries have a separate structure for preprimary education whereas others have special offices and staffs to address issues of science and technology. Regardless of the structure, it is important to identify all of the relevant parts and ensure that each gets appropriate attention in the sector assessment.

The education and training system is viewed as a continuously interacting and changing group of subsystems. Each subsystem has its particular set of objectives related to national social and economic goals, but none operates totally independently. Whatever happens in one subsystem may effect any or all parts of the other subsystems. A decision to have universal primary education, for example, has implications for teacher training institutions, the inspectorate, universities that prepare tutors for training teachers, textbook suppliers, and all other areas of education.

3.3 ANTICIPATED RESULTS

Why use this approach to sector assessments? Because it examines in a single study the entire education system and the larger context in which it operates, and can help to identify and select effective activities to improve educational outcomes. The sector assessment results include the following:

- **Baseline Information**. A detailed overview of the entire education sector provides a standard foundation of information against which to measure the effects of any changes that are later introduced. If a major program of vocational and technical training is introduced to help more people find jobs, for example, it is necessary to have baseline information on the initial level of employment so that the effectiveness of the new program can be measured.

A subsector *analysis* is a careful examination of the subsector component elements and their interrelationships. This information can serve as the initial version of a continually updated guide to managing activities in all subsectors. This baseline information can also be used for more detailed analyses of the relationships among subsectors, and can support a comprehensive program of development in the sector.

- **System Efficiency**. An education system is *efficient* to the extent that it makes the best use of its available resources to achieve its stated outcomes. These include financial as well as human and material resources. Education system efficiency as defined in this manual emphasizes issues of increased effectiveness and cost containment. Thus, there is a focus on controlling costs while allocating existing and new resources to their most productive use. One common index of efficiency, for example, is the unit cost per year of education or training. Another is the cycle cost, or the cost per graduate. The participation of a wide range of individuals in the preparation of a sector assessment, and a focus on the entire system, makes it possible to examine the efficiency of the total system. A systems approach can identify places where monetary and human resources are being used most effectively as well as places where resources are not being put to their best use.

- **Constraints**. *Constraints* are factors that restrain the education system from achieving its objectives. Information on the constraints within the sector is provided by analyses of the variety of current resources that support educational activities, the availability of present and anticipated resources for education, and the defined role of education in a nation's development strategy. An inefficient organizational structure is an example of a commonly found constraint.

- **Subsector Priorities.** A separate analysis of each subsector provides detailed information about each component of the system. It provides analyses of each subsector and an understanding of the strengths, weaknesses, and needs of each part of the system. This allows planners to identify specific priorities and opportunities for each subsector. Attention to these priorities can improve the efficiency of the subsector significantly and thus strengthen the entire educational system.

- **Synthesis.** A *synthesis* is the combination of diverse concepts and issues into a coherent whole. It provides an opportunity to use the data to review policy and its effects on the education sector, and perhaps to alter policy in support of improved efficiency. Examples of policy questions that might be raised as a result of a synthesis of the data include the following: Should quality improvement or expansion of the system be emphasized? Are the education and training opportunities provided consistent with the employment needs of the economy? Are the current methods for training teachers the most cost effective? And, is the existing reward system in the education or civil service ministry appropriate to the needs and capacity of the education ministry and the nation?

A synthesis takes place at two levels following the completion of the basic subsector analyses. The issues, needs, and constraints are summarized for each subsector with regard to the available data, and several subsector recommendations are made. At the sector level, the synthesis provides a detailed analysis of constraints to effective and efficient human resources development as well as information on obstacles and leverage points in the educational system. A *leverage point* is a place where problem solving or additional resources will be particularly effective in meeting stated objectives compared to similar interventions at other places in the system. For example, if investment in an altered approach to teacher training (which decreased costs and improved teaching effectiveness) were shown to be a better investment (i.e., less costly in relation to the desired teaching effects) than altering the terms of employment, then teacher training could be viewed as a leverage point. Of course, costs and effectiveness may not be the only variables considered when policy decisions are made.

- **Planning Tool.** The detailed information on the education sector and its components, combined with information on the resources available for short-term and long-term educational purposes, can be an excellent tool for educational analysts and planners. Moreover, the synthesis identifies places where existing or potential resources might best be invested, with improvement of the entire sector as the objective. The assessment contains information that provides an opportunity for making planning decisions based on data that have been subjected to careful analysis and integration. Location planning for new schools, for example, can be done more equitably if information is available on different levels of access in various parts of the country. Enrollment ratios by district or region are one way to measure these differences in access.

- **External Assistance Agency Coordination.** External assistance agency coordination is a critical element for improving education system efficiency. It is essential that external assistance agencies work closely with government to ensure that available resources are used as effectively as possible. It is assumed that national governments will assume leadership in coordinating all external assistance agency activities.

A detailed analysis of the education sector and its relationship to overall national development goals provides information that can guide decisions of governments regarding external assistance activities in the sector. Careful planning and coordination of national and external assistance agency priorities will result in leveraged assistance--that is, assistance placed where and when it is needed most, and that is coordinated with national plans and the activities of other external assistance agencies for the best possible use of resources to support improvement throughout the sector. There have been cases, for example, where two major external assistance agencies have planned and implemented similar national education programs directed at the same problem. Such situations could be avoided with the government having a data based education plan shared with and accepted by all external assistance agencies.

3.4 INSTITUTIONALIZATION

An important outcome of conducting an education sector assessment, and its subsequent updates, is the institutionalization or strengthening of a systems-oriented approach to planning for education. *Institutionalization* is used here to mean the acceptance and adoption of an approach and its practice on a permanent basis. Institutionalization of this approach to educational planning is desirable for several reasons. It should result in an improved capacity for analyzing and planning the efficient allocation of resources. This should be based on an ability to identify relevant policy questions and to use the analytic skills to address them. The decisionmaking process should be enhanced by the availability of current and reliable data. The systems approach also allows for consideration of solutions that are more than just technical. It provides for consideration of the socioeconomic context as well.

Adoption of a systems-oriented approach requires that representatives of the subsectors fully understand the usefulness of the approach and the importance of their own roles in contributing to its successful application. For this reason, it is important that individuals from all subsectors be closely involved in planning and conducting the assessment. This involvement should begin with the identification of issues and the analysis of basic data, and extend through all revisions and updates.

If additional countries adopt this approach, its expanded institutionalization within a network of cooperating countries will encourage a sharing of expertise, common experiences, approaches to similar problems, and staff.

3.5 SECTOR ASSESSMENT PROCESS

A sector assessment has to be a major undertaking to produce the outcomes cited in Chapter 1. The collection and analysis of relevant information requires the participation of a wide range of individuals in the education sector. Their participation is a very important part of the sector assessment process. It will ensure that different points of view will be incorporated into the assessment and that implementation of the outcomes will be less likely to encounter serious resistance from these individuals. Intensive participation is also important because it will encourage understanding, acceptance, and adoption of the assessment process. To derive a final set of conclusions and recommendations that are firmly based on accurate data requires adherence to an analytically sound process, as outlined below.

- **Preparation**. The first step in any complex process is preparation. This includes activities such as preparing the terms of reference (described in Chapter 4), clarifying what work is expected, ensuring that the work can be completed in the time available, and understanding exactly what products are expected from each team member and at what time.

- **Data Collection**. An assessment cannot be based on data unless current and relevant information is used. Data collection is an important first part of the assessment. Data collection for a sector assessment refers to the gathering of available information, and generally not the conduct of basic surveys. Assessors will have to use both published and unpublished data and documents, supported by interviews with individuals knowledgeable about education. Although most data collection will be done at the beginning of the assessment, some of it continues throughout the study period. Data that are more current sometimes become available near the end of the assessment and these should be included to the extent feasible, particularly if they are significantly different than the earlier information.

- **Data Analysis.** Once the data are available they can be analyzed. This means that the data can be organized and examined critically for their interpretation. For example, if enrollments are decreasing each year while the number of school-age children is increasing over the same period, this would suggest a need for further investigation of this situation. The kinds of analysis that might be included in an assessment are discussed in more detail in Chapter 6. The point made here is that merely collecting available data is not sufficient for an assessment. Once they have been assembled they have to be organized, studied, and interpreted.

- **Identification of Issues and Constraints.** Analysis of the data will identify strengths as well as weaknesses in an education system. These can be described with regard to the data from a single subsector alone or in relation to the economic analyses and data from other subsectors.

- **Conclusions.** The conclusions summarize the results of the analysis. It is important to remember that the conclusions must be based on the data and their analysis. Conclusions should not merely represent opinions of the assessor or of an influential member of the education sector.

- **Recommendations.** The recommendations provide options for addressing any problems or concerns identified through the analytic process. In addition to a set of recommendations in priority order for each subsector it is very important to have a synthesis which gives priority ordered recommendations for the entire sector.

- **Review.** Frequent and careful review of the assessment during its development is an important part of the process. Reviews should occur not only at the end of the assessment but also during the process. They provide an opportunity to ensure that data and their interpretations are correct.

- **Revision.** Revising the assessment involves examining all or parts of it in order to correct, amend, or update it. This is also an ongoing activity during the assessment that results from reviews. At the end of an assessment it is important to make final changes that reflect the most accurate data and interpretation. How each part of this process is conducted is described in more detail in subsequent chapters of this manual.

4. PREPARATION

Careful preparation is important for a successful sector assessment. Preparation provides guidelines for an assessment to achieve its goals and objectives. This chapter deals with the elements of preparation that should be considered when planning a sector assessment. It includes a section on each of the following topics: scope of work, level of effort, personnel, management, logistics, costs, schedule, and institutional relationships.

4.1 SCOPE OF WORK

The *scope of work* is a statement that specifies what is to be accomplished in the sector assessment process and identifies the expected outcomes. This should be prepared before the sector assessment begins. It should be done with the participation of representatives from all institutions and organizations who will be using the assessment results and those who provide its financial support. These are all *stakeholders* in the assessment, that is, they all have some vested interest in the outcomes. It is important to secure their support at the beginning so that they will endorse the decision to have the assessment done, support its preparation, and assist with the implementation of its recommendations.

A precisely and accurately written scope of work is essential. It provides an authorization and a guide for the professionals responsible for performing the assessment activities. It also helps avoid misunderstandings about the objectives of the assessment and possible implied investment intentions in certain areas on the part of government, or on the part of external assistance agencies should any be involved.

In addition to stating the goals and objectives, the scope of work should include a detailed topical outline of the report that will present the results. Readers are encouraged to become familiar with Chapters 5, 6, and 7 of this manual before preparing a scope of work. Chapter 5 will help select the perspectives that will guide the assessment. Chapter 6 presents a conceptual framework for discussing issues and identifying subsector data requirements, and Chapter 7 gives a suggested format for presentation of material on various subsectors. It is essential that a scope of work be realistic with respect to the time and resources that are available. The scope of work must identify tasks that can be addressed adequately in terms of available data, time, finances, and personnel.

A sample scope of work for a sector assessment is given in Table 4.1, and a proposed assessment outline is in Table 4.2. These would have to be adapted to conditions specific to any given country. For example, the team might be reporting to a single ministry rather than an interministerial steering committee. Note that the scope of work specifies the purpose, task, approach, staffing, duration and timing, and reporting. It is critical that each of these items be included in the scope of work so that roles, responsibilities, and expectations are understood clearly from the beginning. For example, having a single key individual out of the country during the assessment period could significantly reduce its effectiveness, especially if this were an influential supporter in the ministry responsible for planning or for formal education.

Once the purpose and content of the sector assessment are agreed upon, it then will be possible to determine the kinds of skills and the number of individuals needed for the assessment team. The *terms of reference* for each proposed team member should next be prepared and attached to the scope of work for the assessment. The terms of reference should clearly state what products or outcomes are expected from each participant responsible for parts of the sector assessment and what skills are needed to achieve them. Table 4.3 is an example of terms of reference for one position of a sector assessment team. This example provides information on the various aspects of the specialist's assignment.

As depicted in Table 4.3, the initial part of the terms of reference should include the *assignment*, the functions, reporting requirements, *skills* or *qualifications* required to perform the assignment, and duration. In the example in Table

Table 4.1

Sample Scope of Work

Purpose:	To provide baseline data, analyses, and recommendations for improved planning in the education sector that will result in more efficient allocations of resources.
Task:	An assessment of the entire education sector will include analyses of all the major subsectors (primary, secondary, teacher, tertiary, vocational and technical, and nonformal education) and of the economic and management constraints on the sector. An introductory chapter will synthesize the findings from each of the subsectors. A proposed outline for the report is attached [See Table 4.2].
Approach:	The education sector should be considered as a system. Particular emphasis should be given to constraints to the system and more efficient use of available resources. A manual with guidelines for using this approach will be provided [i.e., this manual].
Staffing:	A team of individuals will conduct the assessment. A team leader will manage the team, serve as liaison with the relevant units of government and the private sector, and be responsible for production of the final report.
Duration:	The assessment will take a total of 10 weeks. It is anticipated that the team will begin work on November 15, 1989. The team leader will have two additional months after the team finishes its assignment to complete the synthesis and the assessment document.
Reporting:	Team members will report to the team leader who, in turn, reports to the Ministry of Education. For day-to-day logistics and coordination with the ministry, the team leader will report to John Smith of the Planning Unit of the Ministry of Education. Written drafts of the assessment document are due to the Sector Assessment Interministerial Steering Committee by the end of the sixth week to allow time for review.

Table 4.2

Sample Proposed Outline[1]

Chapter	Topic
1	Synthesis
2	Economic and Fiscal Analysis of Human Resources Development
3	Capacity to Manage a Human Resources Sector
4	Primary Education
5	Secondary Education
6	Teacher Training
7	Higher Education
8	Vocational and Technical Education
9	Nonformal Education

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[1] Detailed chapter outlines are given in Chapter 7 of this manual

Table 4.3

Sample Terms of Reference for Primary Education Planner/Analyst

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Assignment: Primary Education Chapter, Education Sector Assessment

Qualifications:

- Masters degree in education and five years of work experience in primary education with planning or policy responsibilities, or its equivalence
- experience describing and analyzing educational systems, or parts thereof

Functions:

- report to, and work closely with, the team leader
- become familiar with all available data on primary education
- collect and organize data from existing documentation and interviews, in order to describe the status of primary education using the format provided in the manual
- assess the constraints facing primary education after examining existing plans and reviewing them in light of existing resources
- analyze primary education in terms of internal efficiency, external efficiency, access and equity, administration and supervision, and costs and financing
- provide conclusions and recommendations for primary education using the format provided in the manual

Reporting:

- submit an initial draft of findings to the team leader by the end of the fifth week
- prepare a draft for submission to the Interministerial Steering Committee by the end of the sixth week, incorporating suggestions made by the team leader
- submit a revised draft to the team leader by the end of the seventh week
- prepare a brief oral presentation of the revised draft, suitable for presentation to the Interministerial Steering Committee, by the end of the seventh week
- submit a final draft by the middle of the eighth week

Duration: Seven and one-half weeks are scheduled for this task.

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4.3, the individual was required to have very specific skills related to primary education and analytic capabilities. Note that skills and experience are what qualify the individual to perform this task and not academic credentials alone.

The functions expected of the individual should be carefully and clearly described. The more detailed the explanation of functions, the less the likelihood of misunderstanding and the greater the chance that the individual selected will meet the expectations specified in the scope of work and the terms of reference.

The section of the terms of reference that describes *reporting* cites the kinds of oral presentations and written reports expected, and when they are due. The fact that a *draft* is submitted to the team leader, and not the steering committee, makes it clear that the individual does not have final authority over the content of a given chapter. The *duration* section of the terms of reference specifies the amount of time each individual has for the assignment so that the assessment can be completed on schedule and not be delayed by any single team member. The terms of reference may be dated and signed upon *acceptance.* A signed terms of reference implies that the individual has agreed to provide the products described within the specified time.

The terms of reference must be consistent with the scope of work and be compatible with the proposed level of effort which is described after Table 4.3.

4.2 LEVEL OF EFFORT

The *level of effort* is a summary statement of the number of individuals required for the sector assessment team and the amount of time required for them to complete their assignment. The larger the scope of work, of course, the greater will be the required level of effort. Table 4.4 gives an example of the level of effort that was required for an assessment in Indonesia. It required approximately 40 workmonths of 21 days each. Note that this table lists how much time (in workdays and five-day workweeks) was required to complete the assessment, including follow-up work to refine the field analyses and 56 workdays for presentations of the revised draft to government officials. We cite the Indonesia example as an unusually high level of effort. Other countries, such as Haiti and Liberia, required a level of effort less than this amount.

Table 4.5 provides the level of effort for the sector assessment that was conducted in Haiti late in 1984. As can be seen from the table, between 13 and 14 workmonths of 21 days were provided for the assessment. This does not include time to present the revised draft to Haitian educators.

The level of effort will vary widely depending on the specific requirements of a particular assessment, the amount and quality of readily available information, the availability and qualifications of professional staff, and the experience of assessment team members with work of this type. Experience has shown that the team leader and one or two other professionals need significant amounts of time to revise and complete the assessment document.

4.3 PERSONNEL

Personnel at several levels of qualifications and experience are required for a sector assessment. They sometimes may come from the policy, planning, and technical levels within government. Where appropriate they also may come from the nongovernmental sector to provide advice and guidance. In countries where the private sector is heavily involved in primary education, as is the case in Haiti for example, it would be important to have this group well represented among those contacted by the assessment team. Individuals from planning and implementation levels are selected to do the data collection, analysis, and drafting of the assessment, and support staff are also necessary.

Policy-related personnel participating in the assessment, such as those on an interministerial steering committee, should be from the highest possible level. These individuals give policy guidance to the assessment with their advice, and also give it political status and validity by their endorsement. High-

Table 4.4

Level of Effort for Indonesia Sector Assessment

Member	Specialty	Workdays				Assignment
		Orientation	Field	Follow-up[1]	Total	
JB	Policy analysis, planning, & evaluation	3	58	102	*163*	Team leader, executive summary (Ch. 1), & external assistance (Ch. 11)
GE	Micro-economics	2	46	6	*54*	Economic & financial analysis (Ch. 2)
BM	Macro-economics	0	42	0	*42*	Economic & financial analysis (Ch. 2)
WM	Human resources economist	0	15	18	*33*	Economic & financial analysis (Ch. 2)
MK	Policy analysis/project management	2	41	0	*43*	Policy analysis & educational data systems (Ch. 4)
JT	Management/training	2	39	0	*41*	Management of education (Ch.3)
DB	International education, evaluation, policy analysis, primary education	0	63	141	*204*	Deputy team leader, preprimary and primary education (Ch. 5)
DE	Vocational & technical education, project implementation	0	34	0	*34*	Vocational & technical education (Ch. 7)
DA	Secondary education	0	32	0	*32*	Secondary education (Ch. 6)
SS	Teacher education	2	41	0	*43*	Teacher education & training (Ch. 8)
SG	Curriculum & supervision, intercultural education	2	44	0	*46*	Higher education (Ch. 9)
SA	Nonformal education	2	34	0	*36*	Nonformal education (Ch. 10)
DP	General service, project management, & coordination	2	75	0	*77*	Administrative Assistant
Totals (workdays)		*17*	*564*	*267*	*848*	
Totals (5-day workweeks)		*3.4*	*112.8*	*53.4*	*169.6*	

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Table 4.5

Level of Effort for Haiti Sector Assessment in Days

MEMBER	ASSIGNMENT	ORIENTATION	FIELD	TOTAL	WEEKS IN FIELD[1]
VC	Synthesis	2	45	47	9
BM	Economics	2	25	30	5
PE	Economics; Vocational/Technical	2	45	47	9
MP	Primary; Secondary	2	45	47	9
MA	Teacher Training; Higher	2	45	47	9
PE	Management External Assistance	2	35	37	7
LV	Nonformal	2	35	37	7
TOTAL		17	275	292	55

[1] Based on 5-day workweeks

level professionals provide important technical guidance to the assessment team. Personnel from the policy and technical levels need not devote continuous attention to the assessment but should be readily available for scheduled briefings and review sessions. (These sessions are described in Section 4.7 below, which addresses the schedule.)

Professional staff responsible for preparing the assessment document must be available for the large amount of time required for this task, as described in the scopes of work. Individuals responsible for major assignments in their own country would have to be temporarily relieved from their daily job responsibilities to be able to spend the necessary time and effort for this task. Ways to recruit individuals for the sector assessment team are described below in Section 4.4, that addresses sector assessment management.

The need for the required amount of essential support staff time should be identified when the scope of work and level of effort are developed. Experience has shown that a full-time administrative assistant and two or three typists or word processing staff are necessary. The administrative assistant is a very important member of the team. This person should have skills in arranging meetings, obtaining reports and data, and logistics. A professional background in general education is very desirable for this person. Good secretarial assistance or word processing skills are essential if a timely report is to be produced. Secretarial assistance is also essential for the intermediate drafts of the report that are produced during the assessment for review by policy and technical personnel serving as guides and advisors to the team.

4.4 MANAGEMENT

This section provides guidance for all staff who will participate in the assessment. In addition to the responsibilities of the team conducting the assessment, important roles are played by participating members of the government ministries, agencies, and institutions and, in some cases, representatives from the private sector.

Clearly defined and agreed upon lines of managerial responsibility are necessary for effective operations. The team leader should have overall coordinating responsibility. This should include advance planning with relevant stakeholders to prepare a scope of work, including terms of reference for each team member. The team leader should have professional and editorial control over the content and recommendations of the assessment that are submitted to the sponsoring agency, although the advice of all members of the team will influence the contents and recommendations of the final document.

The team leader should select candidates for team membership and have final responsibility for presenting the completed assessment to the appropriate government agency. The supervision of all team activities should be the direct responsibility of the team leader, under the general guidance of the interministerial steering committee, reference group, or individual to whom this responsibility is delegated.

An example of a 13-member assessment team staffing is given in Table 4.4. Specialist positions on the team may be filled by staff from any stakeholder organization associated with the assessment, by consultants, or some combination of these two sources. Depending on the qualifications and experience of available individuals, several areas of study and writing assignments may be assigned to a single team member as shown in Table 4.5, although experience suggests that it is usually desirable to assign only one chapter to each team member. Administrative and secretarial staff must also be identified.

Because of the large amount of work to be accomplished in a relatively brief period, and because of the sensitive nature of some of the work, great care must be taken in selecting team members. If especially well qualified persons are available with expertise in more than one specialty area, the writing assignments can be arranged to suit available staff. Although most team members should be working at the same time, availability of persons with the needed skills sometimes makes this difficult to arrange. Hence, there may be some variation in the schedule, which is discussed below in Section 4.7, to accommodate persons with particularly outstanding skills.

The roles of the team members should be clarified at the time of their recruitment. Team members should not have proprietary expectations related to their subsector responsibility with respect to having final control over the subsector recommendations as initially set forth and during subsequent revisions. All team members should recognize that their assignment is to jointly prepare, with the other team members and under the general guidance of the team leader, a draft subsector chapter that reflects the general consensus of the team and the cooperating members of the government. They should be able to subordinate personal prominence to the group goals and recognize that final authority for the content and format of the assessment rests with the stakeholder organizations responsible for the scope of work.

Team identification and selection must be completed long before the beginning of work so that the most qualified individuals can be obtained. Delays in recruiting reduce the number of available well-qualified individuals, as the more capable people are in high demand and their time is obligated to tasks far in advance.

Recruitment is one of the most sensitive tasks related to preparing a sector assessment. All team members should be highly qualified in their specialty areas and have work experience related to their assignments. They should be good team workers, comfortable and effective when working with a wide range of individuals, and familiar with techniques for data and policy analysis and development planning. They should be able to accept professional critiques of their work without excessive sensitivity, and be willing to make changes in their writing and analyses that are suggested by their colleagues.

4.5 LOGISTICS

A wide range of *logistics* support is essential for completion of a sector assessment. This includes the following: administrative support, secretarial support, office space, equipment and supplies, documents and related reference materials, transportation, and photocopying.

Advance arrangements are necessary for office accommodations and should provide adequate work space for each team member. It is important for team members to work near to each other so they can easily share information and ideas as these evolve during the course of their work. Whenever possible, there should be a central office where support staff work, where supplies are kept, and which can serve as a central communications point. General office supplies should be provided, including writing pads, typing paper, staplers, paper clips, and similar items. Use of word processing equipment is ideal for a sector assessment, because of the large volume of written materials, the many revisions, and the numerous tables and figures. If word processing services are not available, there should be good electric typewriters for all secretaries. Availability of a telephone at the central office will save considerable professional and administrative time that might otherwise be spent setting and changing appointments, making transportation arrangements, and performing general administrative coordination.

In situations where team members are working at the same location as their regular assignments, it may be especially useful to provide an alternative office location for them to use during the assessment. Otherwise, individuals will very likely find that the responsibilities of their regular jobs detract from the time required for the assessment.

Administrative support should include a full-time administrative assistant and two or three experienced secretaries. The administrative assistant is a key individual for making local appointments, arranging transportation, and obtaining background documents. The more skilled this person is, the more savings in professional time will be realized on these time consuming tasks. The secretaries should be fast and accurate typists and available to work overtime to meet peak work demands.

A collection of resource documents should be made available in advance for the sector assessment team. This library should include current annual reports for all concerned ministries and institutions; all current statistical reports on census, enrollments, and finance; development plans of the ministries and active external assistance agencies; and other background information of general relevance to the assessment. This collection of resource materials is an important foundation for the assessment team's work.

Adequate transportation is essential, especially for work in larger cities where there are long distances between the office and appointments, or in large countries where it is necessary to travel between cities or to one or more districts. Full-time hired cars with drivers may be required for most of the assessment if taxis are not readily available.

Priority access to reliable photocopying services, during and after normal working hours, is a necessity. The large amount of photocopying for the assessments conducted so far was often much greater than expected, but was necessary given the requirements for review of each chapter by many individuals at both the first and second draft stages. Given the delicate mechanical nature of many photocopiers, with frequent breakdowns, an alternative copier should be identified. A commercial source for photocopying may be preferable to a government office source as the large number of copies required on short notice cannot easily be accommodated without disrupting normal government office workloads.

4.6 COSTS

The *costs* of an assessment will vary according to the level of effort required to accomplish the scope of work, and whether the team members are foreign consultants or government employees. In the latter case, there are no transportation costs or local food and lodging costs. The time cost of government employees released for an assessment is, however, a true expenditure in terms of the opportunity cost of the work they might otherwise be doing. Regardless of the level of effort, a decision to conduct an assessment is a decision to commit a significant amount of funds to the activity, no matter what the source of funding. The full costs should be identified and budgeted for in advance. These include office space and supplies, photocopying, external consultants if any are used, travel, food and lodging, and local transportation.

Table 4.6 is a cost worksheet with examples of the typical kinds of costs that were incurred for the assessments cited in this manual. The cost categories in this table can be used to estimate costs for a specific country. For this worksheet we have assumed the following: (a) three individuals are foreign consultants (team leader, micro-economist and primary education specialist) and the rest are country nationals, (b) the team leader, the primary education specialist, and the management specialist will be responsible for revising the assessment document into final form, and (c) daily rates are $150 for foreign consultants and $75 for country nationals.

Costs will vary according to whether local staff or foreign consultants are used and how many of each are on the team, and on the size of country and number of sites to be visited. Costs also will be affected by the actual daily rates of individuals involved in the assessment. These rates may only be part of the costs of specialists, however, Often it is necessary to also pay for items such as retirement and health benefits while people are engaged in the assessment. Nevertheless, individuals planning an assessment can arrive at a fairly accurate budget estimate by using the worksheet presented in Table 4.6 and ensuring that locally appropriate and more accurate figures are used.

This example is based on experience from several sector assessments conducted over the past few years. Actual costs would depend on many factors including local prices for the various line items and whether some of the team members were foreign consultants. Costs for the recent assessments cited in this manual, which were conducted almost entirely by foreign consultants, have ranged from about $150,000 to $400,000, depending on the size of the country, the complexity of the education sector, travelling distance from the consultants' home countries, consultants' skills, local costs, and specific country

Table 4.6

Cost Worksheet for an Education Sector Assessment in US Dollars

Category	Workweeks		Estimated Daily Rate	Cost
	Assessment	Follow Up		
1. Personnel				
Team Leader	10	4	150	$10,500
Team Members	–			
Macro-Economist	8		75	3,000
Micro-Economist	8		150	6,000
Primary Education Specialist	8	4	150	9,000
Secondary Education Specialist	8		75	3,000
Teacher Training Specialist	8		75	3,000
Higher Education Specialist	8		75	3,000
Nonformal Education Specialist	8		75	3,000
Vocational/Technical Education Specialist	8		75	3,000
Management Specialist	8	4	75	4,500
Administrative Assistant	10	2	50	3,000
Secretarial/Clerical (3)	24	4	25	3,500
2. Food and Lodging (foreign consultants) 1 @ 14 weeks x $75/day 1 @ 12 weeks x $75/day 1 @ 8 weeks x $75/day				12,750
3. Office space 2 for 12 weeks @ $50/wk 4 for 8 weeks @ $50/wk				2,800
4. Photocopying				3,000
5. Local Transportation (within city)				1,500
6. Office Supplies				500
7. Travel, Domestic (between cities)				3,000
8. Travel, International (foreign consultants) 3 trips at $1,800				5,400
9. Office Equipment Rental				2,000
10. Total				$ 85,450

requirements that in some cases expanded the scope of work for the type of assessment described in this document. Additional activities which might need to be budgeted for include: purchase of materials for the resource collection, office equipment (such as a typewriter), resources for data collection, and computer time for data analysis. To the extent that a country uses its own staff and facilities, costs will be significantly reduced.

There are some places in Table 4.6 where cost savings might be realized. For example, if local staff are used it may not be necessary to provide substitutes for them during the entire time of the assessment. It might be possible to have office space donated. Or, lower cost housing might be made available to foreign consultants.

Although these costs for a sector assessment may appear to be high, it should be recognized that these expenditures can have rewards beyond the actual assessment activity. Benefits of the assessment include improved efficiency of use for internal and external resources, the development of baseline information on education, improved educational planning with a solid foundation on data, and the institutionalization of the sector approach to education. Additional benefits are cited under the earlier section addressing sector assessment expected outcomes.

4.7 SCHEDULE

The *schedule* and time needed for a sector assessment will vary according to the scope of work, the size of the country, and the availability of appropriate individuals to conduct the assessment. The scope of work should allow sufficient time for the assessment, based on a realistic schedule for the completion of the specified activities. A sample sector assessment schedule is given in Table 4.7, which shows the field work time for the Haiti assessment. This schedule shows the time allowed for preparation, orientation, and data collection and analysis but does not reflect the time that was required for revisions following the field work. A schedule, such as this one, should

Table 4.7

Sample Sector Assessment Schedule (Haiti)[1]

Specialist	Calendar Week P	1	2	3	4	5	6	7	8	9	10	11	12	Total Work Weeks
Team Leader	*	o	x	x	x	x	x	x	x	x	x	x	x	15.4
Macro-Economist		o	x	x	x	x								4.4
Micro-Economist		o	x	x	x	x	x	x		x	x			8.4
Primary Education		o			x	x	x	x	x	x	x			7.4
Secondary Education		o			x	x	x	x	x					5.4
Higher Education		o			x	x	x	x	x					5.4
Teacher Education		o			x	x	x	x	x					5.4
Nonformal Education		o			x	x	x	x	x					5.4
Vocational/Technical Education		o			x	x	x	x	x					5.4
Management		o			x	x	x	x						4.4
Donor Coordination		o			x	x	x	x						4.4
Special Studies		o			x	x	x							3.4
Administrative Assistant			x	x	x	x	x	x	x	x	x	x	x	11.0
Secretary				x	x	x	x	x	x	x	x	x	x	10.0
Secretary					x	x	x	x	x	x	x			7.0
TOTAL														102.8

Key P = Preparation (4 weeks)
o = Orientation (2 work days)
x = 5-day work week

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[1] As noted in Section 4.7, the team leader, one or two other professionals, and some support staff will have to devote time to completing the report after all the draft chapters have been submitted to the team leader. This time is not reflected in this field schedule.

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be modified on the basis of local conditions as well as the availability and experience of staff. It is essential that the time listed in the schedule be consistent with the scope of work, the terms of reference, and the cost estimates.

Note that this example is not consistent with the time estimates provided in the cost worksheet (Table 4.6) because each example reflects a different scope of work. In planning an assessment it is imperative that the budget reflect the anticipated time required for the task and that the schedule be consistent with this.

Preparation for the assessment may begin as early as a year before the field work. This is the major responsibility of the team leader. This time allows for activities such as selection of team members and support staff, identification of institutions that will participate in the assessment, and development of the scope of work and terms of reference. This task takes approximately four weeks of work time, and it may extend over several months.

Experience has shown that it is useful for the team leader, economists, and support staff to begin work before the other members of the assessment team. The team leader has an important role developing further linkages with stakeholder institutions in the education sector (see Section 4.8 below) and completing a detailed schedule, which is discussed later in this section. The economists can begin data collection and analysis early so that the rest of the team can use the findings in their individual chapters and allow this information to provide some guidance to their own data collection and analysis. The support staff can establish the office, begin making appointments, and start to assemble the resource document collection for the team's work.

The *orientation* provides an opportunity for everyone involved in the assessment to become familiar with its objectives and allows time for the team to become familiar with the prevailing political and institutional climate. In cases where all the specialists on the team are already familiar with the local educational system, it would not be necessary to address this particular topic in the orientation. Even specialists very familiar with the local situation, however, will probably have to be briefed on topics such as the sector assessment approach, format, issue areas, schedule, and individual and team responsibilities. The importance of the orientation as a formal team briefing and as an opportunity to clarify roles and responsibilities 2should not be overlooked.

In Table 4.7, it is assumed that each specialist will be responsible for all *data collection and analysis* for a single chapter. It is important to recognize that the work weeks included in this table are only estimates of the total time needed. Most specific contexts will require that either more or less time be devoted to a particular subsector. For example, if there is little basic information available for primary education, or if the available information is not current, it might be necessary to increase the amount of time allocated for that subsector. Or, if only government activities in nonformal education are to be included in the assessment, and not the work of private voluntary agencies, it might be advisable to reduce the amount of time scheduled for that subsector. All such decisions, of course, are made with regard to the scope of work.

The schedule must allow sufficient time for research, analysis, and writing so that all chapters can be reviewed by interested parties in an appropriate form and in time to allow comments and suggestions to be incorporated into the revision. Oral and written presentations should be scheduled well in advance so that specialists can prepare the material, and individuals from policy and planning levels, who are to provide guidance to the team, are able to meet with individual members. Both formal and informal presentations of the evolving chapters provide opportunities for review of the work of the team and for feedback. Draft versions of each subsector chapter should first be reviewed by other team members under the guidance of the team leader, and by appropriate members of the involved ministry or institution. Revisions should reflect the general consensus of these reviewers. The schedule should also allow sufficient time for team members to integrate feedback from briefings, review sessions, and revisions into the chapters.The sample terms of reference for a primary education planner/analyst given earlier in this chapter (Table 4.3) assume that the specialist will provide 7.5 weeks of service. This is consistent with the sample schedule (Table 4.6) where the primary education specialist is to be responsible for completing the primary education chapter.

4.8 INSTITUTIONAL RELATIONSHIPS

This section discusses the importance of *institutional relationships.* Participation by a wide range of educational stakeholder institutions is critical for a successful assessment. Liaison with local officials is a very important part of advance preparation. The government should be involved at the highest level possible and should designate staff in each cooperating ministry and institution to work with the team. This should include ministries responsible for overall coordination of planning, finance, education, vocational and technical training, agriculture, and health. Advance coordination is critical if the assessment is to represent actual needs and priorities and be regarded as the first stage of a sector-wide development plan.

The assessment should also include information and, where appropriate, input from major external assistance agencies in the education sector. Information on external assistance agency activities and plans can be especially helpful when addressing closely coordinated long-range recommendations and how they might be most effectively implemented. It is important to be sensitive to such involvement, especially if an external assistance agency is sponsoring part or all of the sector assessment costs.

5. PERSPECTIVES

This chapter explains further the general perspectives that have influenced the approach, structure, and format of the type of sector assessment described in this manual. It begins with a discussion of national goals and the specific education and training objectives derived from them. Different perspectives that have influenced the analysis of education and training systems, as reflected in national planning and in the referenced sector assessments, are then discussed in terms of national goals and objectives.

5.1 NATIONAL GOALS

Assessment of education sector activities must begin with the identification of *national goals and derived objectives for each subsector.* The national goals are sometimes presented clearly in political statements or long-range (typically five-year) development plans. These are often explicit enough to serve as the basis for specific derived objectives for the education sector and subsectors. In many countries, however, the national goals are only general statements of social and political ideals, and are not in a form that provides operational guidelines for program planning. In some cases, where public proclamations of national goals are expressed only in terms of ideals, working documents in ministry-level plans may contain suitable derived objectives for the assessment team to use.

In all cases, the assessment team must reach a general agreement with government representatives regarding national goals and educational objectives. Where suitable documentation is not available, goals and objectives may be inferred from past and current programs and activities. A draft of these goals and objectives may then be presented for review and revision by the appropriate coordinating officials.

The analyses of activities undertaken to achieve these goals are *process oriented.* That is, they focus on clearly defined and visible (i.e., verifiable) education and training outcomes and the continuous operations or processes required to reach these outcomes effectively. The instructional systems in all subsectors, for example, should be appropriate to the entry level skills of each subsystem's students or trainees.

A process orientation can substantially contribute to an effective analysis. This is emphasized because of two common weaknesses in approaches to educational planning. The first is the input oriented approach, often advocated by planners who are *structure oriented*. The more *visible and tangible* elements of education and training systems often attract the initial and exclusive attention of such planners. They often prepare educational plans that almost exclusively emphasize the identification of needs for more school buildings, more teacher training institutions, new curriculum development, more instructional materials, and similar physical components. Since the final result of most educational planning usually does include recommendations in these categories, planners often mistake these inputs as the end points of planning instead of the intermediate means by which educational outcomes are attained, such as achievement of knowledge and skills and the development of attitudes. A process orientation would, for example, include the following aspects of the education sector: adequacy of school buildings to support the instructional system; the structure and effectiveness of the instructional system; the relevance of the curriculum in the teacher training institutions and the educational programs themselves; the relevance of the instructional materials to the various educational programs; an examination of the outputs; and so on.

A second common shortcoming in educational planning is the *solution oriented approach*. It is often confused with the process approach and occurs when educational planners have strongly held beliefs about the almost universal usefulness of certain solutions to educational problems. These individuals often begin planning activities already convinced that certain approaches, such as more teacher training institutions or more classrooms, are effective in almost all situations. There are no universal solutions for educational problems in developing countries or elsewhere, whether related to better teacher training, mass media, computers, instructional technology, or the like. A process orientation would consider the existing and realistic policy options and make recommendations accordingly. Examples of policy options are: Should resources be directed toward improving the quality of primary education or expanding access to secondary education? Are there ways to facilitate use of existing private resources in support of publicly provided education? And, would investments in improving textbook distribution systems be more cost-effective than increasing the size of the print runs of textbooks?

Assessment team members should recognize that their recommendations will be effective only if they are practical within existing conditions, plans, and constraints. The recommendations must be made in light of a review of the existing policies. Thus, the recommendations can address how policy changes can improve the education system's performance. They can also point to areas of conflict between existing policies and suggest how such conflicts might be resolved. For this reason, all planning should be sensitive to three classes of information. First, the assessment team should be thoroughly familiar with all present education and training activities, government funded as well as external assistance agency funded. Second, all planned education and training activities should be examined for relevance to national goals and policies. And third, related activities and policies in other sectors with education and training elements should be examined for possible coordination with the assessment team's recommendations.

5.2 EDUCATION AND TRAINING OBJECTIVES

Education and training objectives are generally selected to emphasize benefits either to the *individual* or to the *nation*. Objectives that emphasize benefits to the individual reflect the *social demand approach*. Those which stress the nation's benefits reflect either the *manpower requirements approach* or the *social investment approach*. These three views are discussed below.

- **Social Demand Approach**. The *social demand approach* assumes that a wide range of educational opportunities eventually should be made available to everyone. Intermediate goals are often identified, usually beginning with universal primary education. This approach has a strong intuitive appeal and attracts almost universal political endorsement. It often receives ardent support from rural dwellers, the urban poor of all developing countries, and most development agencies. The social demand approach has a strong influence on setting broad educational objectives for all developed as well as developing countries. However, it is not very useful as a guide for selecting one or more from among a wide range of alternate education programs when there are insufficient funds to support them all. For example, this approach does not provide guidelines for maintaining instructional *quality* in a rapidly expanding system where funds are limited.

The social demand approach often focuses on a comparison of projected changes in demand for school places with their expected availability. It emphasizes the need to expand the capacity of the education system to meet the projected increases in demand. Use of this access-oriented approach does not generally focus on questions about the quality or the relevance of education.

Although the social demand approach may be helpful for preparing long-term and idealized goals for education, it usually does not provide specific enough guidelines for short-term and medium-term planning. Although the *statements* of national goals in education assessments often will reflect the social demand approach, other approaches frequently are explicitly or implicitly represented in actual program plans and operational objectives.

- **National Development Approaches**. The following two approaches are based on using a nation's needs for economic, social, and political development as guidelines for establishing education and training goals. Group (i.e., national) needs are viewed as more important than individual needs. This is only an apparent disregard for the needs of individuals. Because individual rights to education and training opportunities are generally regarded as equally distributed, there is no way that characteristics of individuals can justly be used as the basis for allocating these opportunities. Thus, allocating education and training opportunities to advance the economic, social, and political progress of the entire nation is regarded as producing the greatest collective benefit.

The *manpower requirements approach* is the first of the two national development views. This approach requires a long-range economic development plan with reasonably accurate projections of needs for trained manpower in different skill categories or at different educational levels or both. It also requires a carefully planned economic strategy. This approach is not generally feasible for most developing countries and has not worked particularly well in countries with centrally planned economies, although some elements of the manpower requirements approach may usefully be incorporated into educational planning. Aggregate manpower supply and demand results should be included as part of the sector assessment, however, where data permit. It is not recommended as the foundation for the derivation of sector objectives.

The *social investment approach* is a perspective which has often been used for the sector assessments referenced in this manual. Its particular application with its controlling principles is as follows. This approach begins with an estimation of the monetary *costs* for operating alternative levels and/or types of education and training programs, including the forgone earnings of individuals in programs as part of their cost. The monetary *benefits* of each program are then estimated in terms of increases in each individual's projected lifetime income, based on program participation expressed in comparable units (i.e., the present value of all costs and benefits). This information is then combined to calculate *rates of return* for investments in the various education and training programs at different levels in the education system.

This method is explicitly tied to the existing market for manpower, but uses a readily understood and popular criterion for program success (i.e., income). It is favored and often used by many economists. Rates of return provide convenient measures to estimate and compare results among different programs, and appear to summarize a number of complex issues with a single numerical index. The major limitations on their calculation are excessively aggregated data and the scarcity of reliable information on measures of benefits.

Identification and estimation of program costs are fairly straightforward, but some planners mention possible *conceptual weaknesses* with a procedure that regards lifetime income of individuals as the only criterion for program benefits. These weaknesses relate to questions such as: (1) do individual earnings validly represent the broad range of goals required for economic development? (2) what about the very significant *non-economic benefits* which are not included in an income-based index of program success? and (3) does income fairly measure the relative social contributions of persons in different fields of specialization (e.g., engineering vs. nursing)? The assessment should clarify the assumptions and limitations for all summary measures before policy conclusions and recommendations are derived from them. Although rates of return analyses have been used in several recent sector assessments, this manual does not recommend the use of rates of return alone in economic analyses. The use of unit costs and cycle costs is another means of comparing different programs, and these are discussed in Chapter 6.

- **Other Considerations**. In addition to the three approaches presented above (social demand, manpower requirements, and social investment), other considerations influence the formation of goals and objectives for education and training. For example, *political goals* are often significant and overwhelming, especially in developing countries where newly formed governments are sometimes very sensitive to their need for nation-building or for popular support. Education and training programs with *short-term and visible results*, such as newly constructed schools, often receive more support than more effective programs with distant benefits. Further, programs may be affected by particular ideologies which must be respected and accommodated if political support for them is expected.

Most goals and objectives probably represent a compromise among several approaches. Although the social investment approach has been used in many prior sector assessments, care should be taken to accommodate all relevant local considerations in order to prepare acceptable and meaningful recommendations.

6. CONCEPTUAL FRAMEWORK

This chapter is particularly important because it describes the analytical context and content required for each chapter of an assessment and cites examples of chapters from recently conducted assessments that were based on these guidelines. The chapter describes the policy context of educational activities and the nature of the content area of each subsector. It illustrates the kinds and quality of data required to support the analysis, and discusses the analytic themes used to examine each subsector.

Decisions affecting the education system reflect educational policy. The first part of this chapter, Section 6.1, addresses the policy context. The concept of subsectors was introduced in Chapter 3, where the systems approach to education was described. Each subsector is delineated in terms of its general content in Section 6.2 of this present chapter so the reader will understand exactly what component of the education sector is to be assessed. It should be recognized that in almost every case educational activities in a subsector will be provided by both public and private entities. Emphasis on either public or private entities would depend on the structure of the subsector under consideration.

Section 6.3 of this chapter addresses data and their quality. Data quality is an important topic because the data-supported approach to decisionmaking advocated by this manual relies heavily on the analysis of existing data as the basis for improved planning and management of the entire sector. A discussion of data requirements for each of the subsectors is given in Section 6.4.

Once data have been collected for each subsector, they are analyzed with respect to five themes: external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing. Section 6.5 of this chapter defines each of these analytic themes and illustrates the kinds of data and relationships that support their understanding.

This chapter is coordinated closely with Chapter 7, which discusses format (written presentation) of the data and subsequent analysis of findings from the data. Chapter 6 describes how to prepare the analysis and Chapter 7 how to present it.

6.1 THE POLICY CONTEXT

Educational decisionmaking is guided by policy. *Policy* is a course of action, selected from several alternatives and in light of given conditions, to guide and determine decisions. In essence, it is a high level and somewhat abstract plan that embraces the general goals and approaches or procedures in relation to education.

Because policies guide decisions, good policies are more likely to result in good decisions than weak ones or policies that have not been completely thought through. Affecting or changing a policy results in effects throughout the decisionmaking structure. Thus, influencing policy is a highly leveraged activity. (Leverage was defined earlier in Section 3.3.) This manual describes an approach directed towards policy formulation and revision because of the opportunities for leverage.

Policies affecting education exist both within and outside of the education sector. The following are examples of policies: the institution of universal primary education by the year 2000, a commitment of no more than 3 percent of the annual education budget to literacy activities, and the provision of incentives to increase the number of jobs for school leavers. The first two are examples of policies that lie within the education sector whereas the last is an example of a policy that is not made by the education sector but is nevertheless of great importance to it.

- **Policy Analysis.** Influencing policy formulation so that policies support improved performance of the education sector is an efficient approach to educational improvement. To do this requires an understanding of existing and alternative policies and an analysis of their impacts on educational activities. The approach described in this manual emphasizes policy analysis as a means of understanding, formulating, and revising (if necessary) policy.

Policy decisions should be a result of a systematic and iterative process. Under ideal circumstance, selected policies should embody specific approaches to problem resolution that result from a systematic review and analysis of the range of policy options. This systematic review of policy options is called *policy analysis.* It consists of eight elements. These are:

1) Analysis of the existing situation;
2) Generation of policy options;
3) Evaluation of policy options;
4) Making the policy decision;
5) Planning for policy implementation;
6) Policy implementation;
7) Policy impact assessment;
8) Subsequent policy cycles. [1]

Policy analysis provides a framework for evaluating education policies and other relevant policies. Individuals conducting a sector assessment must engage in policy analysis. This involves an attempt to replicate the actual policymaking process. In addition to understanding the technical and financial implications of each policy, several other aspects must be taken into consideration.

The complexity of the situation must be fully and realistically acknowledged. The policy context includes a large number of diverse variables. It is easy to focus on the technical aspects of educational policy, but it is essential to also include the relevant aspects of the larger socioeconomic environment as well, because of the complex links between education and training and the socioeconomic structure. The content of any policy must be considered in light of other existing policies. Sometimes policies compete and balances have to be achieved. Sometimes policies conflict and these conflicts must be resolved. Any new or altered policy must be supported in order for it to be implemented effectively. Policy analysis must include a consideration of whose support should be solicited and how this might be done.

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[1] *Education Policy Analysis: The Jordan Case. An Activity Oriented Approach* by the Economic Development Institute of the World Bank (1986), p. 1.

- **Policy Questions**. A *policy question* is a question that addresses the appropriateness of a particular policy. Policy analysis occurs through asking and answering policy questions. Formulation of policy questions requires an understanding of the issues surrounding the subsector and/or area under consideration. It is impossible for individuals to identify appropriate questions if they do not understand the technical area in which they are working and the contexts of the various proposed technical solutions.

Our experience has demonstrated that it is especially helpful to group policy questions with respect to the five thematic areas mentioned earlier in this manual. These are: external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing. These thematic (issue) areas are defined and discussed in more detail in Section 6.5.

This part of Chapter 6 provides examples of the kinds of questions that can be asked in each thematic area. Not every possible question is, or could be, included here. These examples are provided as guides to assist with policy analysis, and provide avenues for selection of data and their analysis during the sector assessment process. The sample questions below are organized by issue area, but it is important to recognize that any question probably relates to at least one other area. For example, issues related to distributing educational financing over a variety of sources may have serious implications for both costs and financing and for access and equity issues. In several instances examples are given for a particular subsector. It should be recognized that it is most likely that the policy question is not limited to that particular subsector but can probably be appropriately asked with relation to other aspects of the education sector and its larger context.

Furthermore, we stress that the examples of policy questions below tend to emphasize the context of resource constraints. We believe that this is valid considering the realities facing most developed and developing countries in terms of resources available for the education sector. We recognize that in many cases cost reduction might not be possible because of growing populations and increasing access, resulting in larger numbers of students. We do advocate cost containment, however, as a possible means of improving quality and access.

Several overall questions need to be addressed. They are asked in the context of whether the allocation of resources is efficient in relation to the outputs. Is the education system efficient? Is it addressing its stated goals, and are its graduates appropriately skilled for, and able to find, positions in the economy? Where are its inefficiencies? How could these be reduced? What are the costs and benefits of alternative improvements? What impacts will these proposed changes have on the rest of the system? Is retrenchment possible or likely? If so, in what areas? How good are the lines of communication between the education sector and the ministries that make financial allocations?

To focus these questions it is useful to consider the five themes identified above. Examples of policy questions under each of these themes are provided immediately below. It is important to recognize that these are examples and that because every situation is unique it will present set of policy issues that need to be addressed by its own set of policy questions. It is this set of questions that helps determine the kinds of data to be collected and the types of concerns to be addressed in the analysis.

External efficiency is concerned with the relationship between individuals' education and training and their subsequent activities. In this regard consideration should be given to the relevance of education and training. Is the curriculum appropriate? Do examinations, which can be a powerful tool for evaluating educational outcomes, adequately measure what needs to be measured? Do the costs of "practical" studies in secondary school justify the outcomes in light of information on job placements and salaries, for example? Where do the majority of graduates find employment? Is it in the public sector? Are these employment opportunities likely to remain available in the future? Are the goals of adult education programs realistic? If not, are the investments appropriate?

The relationship between use of available resources and specified educational outcomes is the focus of internal efficiency concerns. There are many factors that affect internal efficiency. For example, are there untapped economies in curricular choice? Given what research shows about the value of instructional materials, are sufficient resources allocated to this aspect of the system? Are the most effective kinds of learning outcomes really a function of inappropriate curriculum or inadequate teaching, or are they a result of poor distribution of instructional materials? Are investments in current approaches to teacher training justified by the outcomes? Or, are the problems in the classrooms ones that can be addressed by teacher training at all--or could they more appropriately be addressed through improved system management or developing incentives for teachers? Are the existing nonformal education programs duplicated in several other ministries?

The major considerations for the issue of access and equity relate to whether there are sufficient places for those who qualify for education and training, and if these are distributed fairly regardless of characteristics such as gender and location. Thus, policy alternatives need to be considered in light of the impact they will have on access and equity. For example, will a decision to distribute some of the costs of higher education encourage disparities with regard to gender, ethnic group, geographic location, or language? Will the introduction of lower cost programs increase inequities in any way? If so, are these inequities at an acceptable level? Does the need to increase access geographically justify substantial increases in costs? Do subsidies in higher or technical and vocational education mean that, in effect, only certain classes of individuals have access to these benefits?

Administration and supervision provide a wide range of possibilities for improving the education system because improvements at one level can influence other levels positively. Examples of the kinds of questions that can be asked follow. Could there be more efficient use and management of ministry personnel? Are the approaches to, and content of, staff development appropriate and cost effective? Will a policy to increase access or change the instructional process, for example, erode the administrative structure? What is being done to improve school management that appears to have a high degree of influence on improved school effectiveness? Is decentralization of management a cost effective approach? Would investments in the development of a computerized information system and a staff to manage it have sufficient benefits to justify the costs?

Issues addressing costs and financing are concerned with both the costs of existing and alternative policies, and sources of finance to implement them. What are the costs of a particular program--both development costs and the implications for recurrent costs? Do cost projections contain realistic assumptions about population growth? What are the short-term and long-term consequences of alternative choices? What are the unit and cycle costs of each educational program? Are these appropriate, and how might they be reduced? What are the individual and total rates of return for various educational programs? Are they in balance or should they be adjusted? Who is paying the costs of each educational program? What are the different contributions--both monetary and non-monetary? To what extent is the educational activity publicly subsidized? Are there any hidden subsidies? Are the subsidies appropriate? What are the future financial needs, and what seem to be possible additional sources?

The rest of this chapter addresses in more detail the content, data requirements, and analytical issues to be included in an assessment. Policy questions serve as a guide for determining which data should be collected and what questions should be asked when each of the thematic issues is analyzed.

- **Policy Decisions.** A *policy decision* is the result of selection of a particular course of action that will influence decisions relating to the education sector. Policy decisions are made by individuals in the ministries who have been given the responsibility to make them and to oversee their implementation. Policy decisions are not the responsibility of sector assessment team members.

It is the responsibility of individuals participating in an education sector assessment to provide decisionmakers with as much information as possible on all relevant policy options, presented as concisely and succinctly as possible. The latter is particularly important as decisionmakers are often required to make choices on very short notice and under crisis situations.

As an individual goes through the policy analysis process it is important to bear in mind what the decisionmaker is likely to need in order to make a sound choice. At a minimum, the analysis should result in a summary that emphasizes the strengths and/or weakness of the policies under consideration, and the extent to which they support the goals they were designed to support. It is important to indicate if and how policies conflict. There should be suggestions regarding how existing policies might be improved.

Alternatives to existing policies should be described in the same manner. All considered policies should be evaluated in terms of their implementability, and an assessment should be made in terms of which policy reform is likely to have the greatest impact and in what ways. The concerns affecting decisionmakers are described in the next two paragraphs. Individuals involved in policy analysis should be sensitive to these when they provide information and make recommendations to those responsible for making choices.

It is up to the decisionmakers to take this information and actually make policy decisions. It is likely that they will be under pressure to not consider all options. Furthermore, there is likely to be pressure to make incremental changes rather than to opt for major policy reform. Although easier in the short run, the former approach runs higher risks of building layers of competing policies, encouraging the development of a piecemeal education system, and decreasing educational efficiency.

Decisionmakers are, unfortunately, often in the position of having outside constraints imposed on policy options. These may be in the form of internal political pressure or limitations placed by external assistance agencies, for example. Decisionmakers also recognize that some decisions can affect the political or economic stability, and in such cases they have to be especially cautious.

6.2 CONTENT AREAS

This section gives a summary definition of subsectors and other content areas commonly included in a sector assessment, describes the purpose and general content of each of these within the education system, and provides a rationale for why each is included in an assessment. The content areas are presented in the order in which they usually appear in the written assessment report. The descriptions in this chapter are necessarily general for each of the content areas as definitions and purpose will vary slightly from country to country and even from time to time within a country.

The introduction to this chapter emphasized the close relationship of the material in this chapter with Chapter 7. This material will be easier to understand if the reader also uses one or more of the referenced sector assessments. The Haiti and Indonesia assessments were completed most recently and their content and format most closely resemble the guidelines given below.

- **Synthesis.** The *synthesis* may be the single most significant chapter of the sector assessment. It synthesizes the entire assessment into a *succinct presentation that can be read without reference to the remainder of the report.* It should identify common themes from the subsector analyses and other chapters and present them in terms of the most important policy issues that need to be addressed. It is based on the findings from all the other chapters and must present a coherent analytical description of the entire sector.

A distinction is drawn between a synthesis and a summary. The *synthesis* should serve as an overview of the status, needs, constraints, conclusions, and recommendations for the entire education sector within the national and economic context. It should highlight for planners, policymakers, and decisionmakers those subsectors most in need of attention or most likely to yield high benefits from investments in light of particular policies. A *summary*, on the other hand, merely abstracts the subsector findings without casting those findings in a large context or using them to identify priority areas for investments and interventions. Because the synthesis is likely to be the most widely read portion of the sector assessment document, it is recommended that the topics of economic and fiscal capacity and management capacity receive substantial attention. It is also recommended that the synthesis contain a summary of subsector recommendations.

The team leader drafts the synthesis based on the findings of the other team members after discussions, where appropriate, with government officials, educators, team members, and donors. If time permits, the draft should be reviewed by these same individuals, and revised by the team leader while the team members are still completing revisions of their chapters.

The purpose of the synthesis is not to prepare a list of proposed projects based on the assessment. The entire assessment, it should be noted, can serve as a foundation for project identification and preparation at a later stage.

- **Economic and Financial Analysis.**[2] An *economic and financial analysis* is an overview of the economic conditions affecting the education sector and a review of the funds reasonably expected to be available for expenditures in the sector. The economic and fiscal analysis sets the context for the subsequent discussions of the individual subsectors and other content areas in the sector. This analysis covers four principal topics: macroeconomic conditions and trends, governmental fiscal capacity, manpower supply and demand, and unit and cycle costs within the major levels of education. Determination of rates of return on investments at different levels of education may be included in this analysis if desired, although they have not always been found to be particularly useful in prior assessments.

A review of *national macroeconomic data* is required because the ability of the nation to support recurrent governmental expenditures, in general, and those of education activities, in particular, is ultimately determined by the vigor and stability of the economy. *Recurrent costs* are those annual non-capital costs that must be met for education programs to continue. Salaries are an example of a recurrent cost. In addition, the macroeconomic data comprise the foundation for the specific consideration of a government's fiscal capacity to absorb increased expenditures resulting from any new initiatives in the education sector development expenditures.

Fiscal capacity is the ability of revenues and/or debt (usually public) to pay for education. The *fiscal capacity analysis* compares the expected growth of governmental resources with expected increases in demands on these resources. The analysis examines the likely availability of funds for education programs compared to the demand for funds from existing or planned education and training activities.

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[2] Portions of this discussion are taken from Chapter 2 of *Yemen Arab Republic: Education and Human Resources Sector Assessment*, January 1986.

Development expenditures are considered in the fiscal capacity analysis in order to examine the effects of two factors: the effect of government development expenditures on reducing funds available to finance recurrent costs in the short term, and the effect of development projects on increasing recurrent costs in the long term.

The analysis of *manpower supply and demand* identifies areas of surplus and shortage between the outputs from the levels of an education system and the estimated demands of the economy for various kinds of trained manpower. An economy based on manufacturing, for example, will require significantly more skilled workers than physicians with a specialty in kidney transplant surgery. To be useful to national planners, a manpower analysis must be as specific as possible about particular skills and related types of education and training that are in current or projected under-supply or over-supply. For example, merely knowing that 2,000 skilled workers will be needed at the end of 10 years is not adequate enough to plan education programs to satisfy this need. It is also necessary to know approximately how many of the 2,000 should be in manufacturing, how many in service provision, how many in mining, and so on.

In some situations, where there is a significant movement of trained manpower into and/or out of a country, the impact of the external supply and demand of manpower must also be taken into consideration. This kind of manpower analysis must examine the potential for export of labor as well as the demand for expatriate labor. Both factors can have significant effects on the magnitude of surplus or shortage in certain skill areas. The referenced assessments from Botswana and the Yemen Arab Republic provide examples of situations where the external supply and demand of manpower were significant factors in the economic and financial analysis.

Unit and cycle costs focus on a much narrower aspect of the economy. A *unit cost* is the cost of providing one student with one year of education or training at a particular level. The unit cost analysis focuses on specific levels of education and training and, where appropriate, on the major forms and types within a particular level. A *cycle cost* is the total cost of producing one graduate from a given cycle (for example, primary or secondary) of the education system. Because of repetitions and dropouts the cycle cost is often much higher than the total costs for each of the years in the cycle. Examples of calculations of unit and cycle costs are given in Section 2.8 of the Haiti Sector Assessment.

Rates of return have also been used to focus on issues relating to the relative value of investing in different levels of education within a system. *Rates of return* result from calculations designed to indicate long-term returns on investments at different levels of education. Two types of rates of return are commonly used--individual and total. The *individual rate of return* consists of all increases in personal welfare realized by students and their families during and after their education as a consequence of that experience. The *total rate of return* includes all increases in personal welfare, to society as well as the student and family, that result from the education of an individual.

Many planners realize that rates of return, which at best are estimates, cannot readily incorporate all of the social, psychological, and economic factors that are important results of various kinds and levels of education and that often influence private or social decisions regarding investments in education. These indices of the returns on investments can sometimes be a useful tool for analyzing potential investment imbalances among levels of education, however. In addition, comparisons of the variations between individual (private only) and total (private plus social) rates of return can provide useful indications of the different incentives between individual and collective rationales for demands for education. Rates of return are reported in all the assessments referenced in this manual. However, if time and resources for an assessment are limited it is recommended that unit and cycle costs receive priority as these have proven in other assessments to be more useful for policy decisions than rates of return.

The major emphasis of the economic and financial analysis is to identify future opportunities and constraints within the education sector, and to estimate how these factors are most likely to affect the sector planning requirements. Although the analysis is based largely on data from the present and recent past, emphasis is solely on identifying what might be done better rather than on evaluating past decisions. In addition, the total education assessment is concerned both with short-term, marginal changes that can improve educational efficiency and long-term policy reform that might affect the education sector broadly. The expected outcome of an economic and financial analysis, and of the education assessment as a whole, is to propose a set of options that a government may consider in its efforts to adapt education policy and practice to the country's emerging patterns of opportunities and constraints.

- **History, Structure, and Management Capacity.** This chapter of the assessment has three purposes: to briefly describe the historical evolution of the system of education, to describe the organizational structure and decisionmaking processes in the education sector, and to describe and analyze the management of education. Major emphasis should be on sector management capacity, with historical and organizational information providing the background for this and other chapters.

Management capacity is defined as the ability to direct and implement activities in the sector. Managing a national educational enterprise efficiently is a very challenging task. In many countries, for example, the Ministry of Education is the largest single employer in the nation. The management of this task determines how well a nation's valuable human and fiscal resources are transformed into specific education outcomes. There are several aspects that are very important when considering the management task. First, the stated goals should be considered because management performance must be compared against what it is intended to do. Are the goals adequate and operationally specified? The strategy, or approach, should also be considered to determine if the means selected to attain the goals are the most efficient and appropriate. Information on the institutional, program, and system structure, staffing and staff incentives, and institutional and staff development programs are also essential.

The management strategy should be examined with respect to the degree to which there is a systematic review of outcomes and adjustment of activities and programs within the entire sector to more efficiently achieve educational goals. Such a systematic review and adjustment should include all parts of the system management for there to be an integrated strategy. This would include staffing, reward structures, and management of programming, operations, and administrative support.

The organizational structure and decisionmaking processes, both formal and informal, must be fully understood in order to derive accurate conclusions, make appropriate recommendations, and suggest relevant policy options. In particular, an understanding of the organizational structure of the education sector can provide insight into where there are obstacles to informed decisionmaking and where changes might improve efficiency.

. The history of an education sector is important because it provides a context for understanding the present. This context is essential for interpreting issues and concerns that arise from the data and for helping to identify feasible policy options. For example, it is seldom useful to promote a change that has been tried several times before and failed to meet its objectives. It is also important to recognize that attention to the historical evolution of the sector should be brief.

- **Preprimary Education.** *Preprimary education* prepares children to perform better in primary school. It consists of educational activities for children who have not yet entered primary school. These activities might be an integral part of the formal education system or they might be somewhat separated from it. Regardless, they may be provided by the public sector, the private sector, or some combination of the two.

There is a significant amount of information about child development and what are appropriate learning-activities and expectations for children from 0 to 6 years of age. This information may not be valid for every culture and environment. The concept of how young children are best prepared for primary school varies considerably from country to country and even from program to program within a country. The level of development of the country and the education system both will influence the ways that best prepare children for primary school. In a country where malnutrition affects the majority of children, for example, nutritional and physical development levels will probably be focal points for preprimary education. Or, emphasis in another country where malnutrition is less of a problem may be on specific regions where poverty affects physical and mental development.

If preprimary education plays a significant role in a country's education system, or if government is interested in examining its potential, then this subsector should be covered in a sector assessment. Special attention should be given to the relationship between preprimary and primary education, both in the short-term and the long-term. That is, the purpose of preprimary education should always be foremost in the mind of the individual responsible for this chapter of a sector assessment. The chapter on preprimary education should describe national goals and strategies; the structure and programs; the needs, plans, and constraints; and major issues in the subsector. It should end with a series of conclusions and derived recommendations or policy options. This information should be presented in the format described in Chapter 7 and the discussion of issues should use the analytic themes described later in Section 6.5 of this chapter.

- **Primary Education**. *Primary education*, also referred to as basic education, is the first major part of formal education. It serves as the foundation for passage to higher levels, and in many cases is the only level of education available to the majority of the population. The *primary cycle* consists of those years of school that constitute primary education. For example, the first 6 years of school in Botswana make up the primary cycle. Sometimes primary school consists of more than one cycle--for example, in Haiti the primary school consists of two cycles, the first is for four years and the second for three years.

The structure and content of primary education varies from country to country according to the purposes that it is designed to serve. In some situations, both the structure and content are very traditional, and may even be modeled after a European system. In other cases, the primary curriculum may be practically oriented, stressing trade and vocational skills.

An analysis of primary education must always reflect its foundational nature. The quality of the upper levels of the education system may be jeopardized without good primary schooling. To understand the issues surrounding primary school it is essential to understand the goals, strategy, structure, content, and plans of primary education in a particular context. The information from this understanding should make it possible to analyze and identify the needs, constraints, and major issues within the subsector. The data from this analysis should make it possible to identify a set of conclusions and recommendations or policy options. In the sector assessment document this information should be presented in the format described in Chapter 7 and the discussion of issues should use the analytic themes described in Section 6.5 of this chapter.

- **Secondary Education**. *Secondary education* is that sequence of formal schooling that follows the primary cycle. It may have several purposes: to build on primary school, to prepare students for higher education, and to prepare students for employment.

Like primary education, secondary education varies in structure and content from country to country depending upon the purposes it is designed to serve. It may consist of more than one cycle and it may have parallel cycles. For example, some countries have both a traditional and a diversified curriculum. In general, a *diversified curriculum* is one that is designed to teach specific trade or vocational skills rather than general education content.

To a certain extent, the structure of secondary education will depend on the purposes it is to serve. In some countries the secondary cycle has traditionally been viewed as a period of time to select those students who appear to be most likely to succeed in higher education. It is also important to determine situations where functions that are usually part of another education subsector, such as teacher training, may also be regarded as part of the secondary education subsector.

In addressing secondary education, special attention should be given to its relationships to the kinds of graduates that it is meant to produce. The chapter on secondary education should describe national goals and strategies; the structure and programs; the needs, plans, and constraints; and major issues in the subsector. It should end with a series of conclusions followed by recommendations or policy options. This information should be presented in the format described in Chapter 7 and the discussion of issues should use the analytic themes described in Section 6.5 of this chapter.

- **Teacher Training**. The *teacher training* subsector is especially important and challenging because it influences several other subsectors by preparing and providing their professional staff. Information on teacher training is essential for a sector assessment because teachers constitute such an important and large investment within the education sector. In some primary education subsectors, for example, teachers' salaries comprise over ninety percent of the total costs. Teacher training may be carried out in a range of institutions, including teacher training colleges, universities, and secondary schools. These institutions may specialize in providing a particular type of teacher or they may all provide teachers for various subsectors.

The sector assessment chapter on teacher training should address both preservice and inservice training. The chapter should consider teacher training in terms of its relationships to the entire sector. In particular, attention should be given to topics such as projected needs and opportunities for cost reductions. It should also give special consideration to the relationships between the training and the resultant schooling outcomes. In this regard it is important to distinguish between credentials and qualifications -- teachers with formal credentials are not necessarily well qualified to teach.

The system of teacher training can only be understood in terms of the goals, strategy, structure, content, and plans within the subsector. With this information one can identify the needs, constraints, and major issues within the subsector. The data from this should make it possible to come to conclusions that lead to a set of recommendations or policy options. In the sector assessment the information should be presented in the format suggested in Chapter 7 and the issues should be discussed using the framework described in Section 6.5 of this chapter.

- **Higher Education**. Institutions of *higher education* are those that require completion of some or all secondary school, or its equivalence, for admission. They may serve specialized purposes (such as management institutes) or general purposes (such as universities). They comprise the most advanced level of an education system. In general they accommodate a much smaller number of students than institutions at any of the other levels in the sector.

After teacher training, the higher education subsector provides the largest number of highly trained individuals who are likely to have major roles in the education sector. The subsector has traditionally had much more flexibility and freedom from immediate oversight by the overall management of the education sector than most other subsectors. For this reason it may sometimes be difficult to locate all the data needed for this subsector analysis.

It is sometimes difficult to identify clear statements of the goals and strategy of higher education. This must be sought out, however. This information, along with information on the structure, content, and plans makes it possible to determine the needs, constraints, and major issues related to higher education. This should be followed in the sector assessment by conclusions and a set of recommendations or policy options. In the sector assessment the information should be presented in the format described in Chapter 7 and the issues could be discussed along the lines of those detailed in Section 6.5 of this chapter.

- **Vocational and Technical Education**. In general terms *vocational education* is that training oriented toward craft skill development, and *technical education* consists of academic and occupational training directed at providing higher order skills. Definitions vary from situation to situation and the distinction between vocational and technical education is often blurred.

Vocational and technical education are important components of the education sector because they provide much of the trained manpower on which a country's economy depends. This training may be offered at post-primary, post-secondary, and higher education levels through a variety of programs and institutions, and is often operated within both the public and private sectors. Analysis of the vocational and technical subsector is often complex because of the variety of programs and their sponsorship. Training is often provided outside the Ministry of Education so the data gathering and analysis tasks may be more complex than those associated with more clearly defined subsectors such as primary and secondary education. Also, the variety of programs often means that there is a very wide range of unit and cycle costs for this subsector.

Special attention should be given to the relationships between vocational and technical training programs and the employability of their graduates. The chapter on vocational and technical education should describe national goals and strategies; the structure of the subsector and its major programs; the needs, plans, and constraints; and major issues facing the subsector. It should end with a set of conclusions followed by recommendations or policy options. This information should be presented in the format described in Chapter 7 and the discussion of issues should be based on the analytic themes described in Section 6.5 of this chapter.

- **Nonformal Education.** *Nonformal education* (NFE) consists of learning activities outside the structure of the formal education system that are consciously directed at meeting specific learning needs of particular subgroups at a nationwide level or in a particular community. Examples of topical areas where nonformal education programs are frequently found include literacy, health, agriculture, small business development, and income producing activities.

Nonformal education is an important part of the education sector because it reaches a large number and wide range of learners, many of whom do not have easy access to the programs in the formal education system. It is also different from the other subsectors because most of its activities are often provided through agencies not within the Ministry of Education. In fact, many nonformal education programs are in remote areas not served fully by formal education subsectors. Description and analysis of the nonformal education subsector is often difficult due to the variety of programs and their sponsorship, as well as the location of many of them in small and sometimes remote communities. Information on NFE activities must usually be obtained from a variety of sources, many of which may not be readily available and, therefore, have to be sought out. Also, many nonformal education programs are run by small private voluntary agencies and church affiliated groups that do not have the resources to maintain detailed records of their activities. It is thus often difficult to obtain reliable data about program content and numbers of participants.

Particular attention should be given to obtaining information about the outcomes of nonformal education activities as this aspect is often very elusive. Because of the variety of activities it is also important to examine the delivery and content of the NFE programs in relation to the population needs and national educational goals, and to look for duplication of program content because this could signal ways for improved resource allocation by combining programs with similar objectives.

The chapter on nonformal education should describe national goals and strategies; the structure of the subsector and its major programs; the needs, plans, and constraints; and major issues facing the subsector. It should end with a set of conclusions followed by recommendations or policy options. The chapter should be presented in one of the formats described in Chapter 7 and the discussion of issues should be based on the analytic themes described in Section 6.5 of this chapter.

- **Special Studies.** The objective of this manual, as stated in Chapter 1, is to promote the application of the sector assessment approach with the ultimate goal of promoting the more efficient allocation of educational resources. The guidelines presented are not meant to be inflexible or rigidly prescriptive, and in fact have not been applied in exactly the same way in the referenced assessment examples. Many countries have some unique aspect of their education sector and therefore may have special requirements for their sector assessment, in addition to the general needs set forth in this manual. These special requirements may be general or very specific but any allocation of funds or manpower to a special study should be closely related to critical issues or information needs in the education sector.

The scope and format of a special study will depend entirely on the topic. Examples of special studies that have been conducted as part of recent sector assessments include studies on policy and information needs in Indonesia, school feeding and textbooks in Haiti, Koranic education in Somalia, and external assistance in Haiti and Indonesia.

- **Background Documents.** It is essential for every sector assessment to contain an accurate list of all its source documents. This list of background documents provides validity to the assessment as it shows exactly what data were used, and it allows readers to verify any information they believe may be incorrect. It also serves as a basis for the development of a set of materials that provide baseline data on the entire education sector.

Each member of the team is responsible for compiling a list of sources which should be submitted to the team leader. The team leader is responsible for compiling the full list for the completed assessment.

6.3 DATA AND THEIR QUALITY

Data comprise a significant component of a sector assessment and can strongly influence subsequent decisions that affect the entire education sector. This section of Chapter 6 discusses several aspects of data that need to be kept in mind during the sector assessment process.

What are data? *Data* are comprised of factual information that is known or commonly accepted and from which reasoned conclusions may be derived. For example, numbers providing information on enrollments, repetitions, and dropouts are data. Note that data are not limited to figures, however. An existing education policy, such as an objective to achieve universal access, or information of the kinds of interactions between two units in the Ministry of Education, are also examples of data that can contribute to an education sector assessment.

- Data *availability* refers to the accessibility of data. That is, the extent to which they can easily be obtained and used. The approach to sector assessments described in this manual emphasizes use of available data. Much data will be found in government statistical documents, ministry annual reports, and external assistance agency reports, for example. Not all data, however, are available in printed form or as published documents. Some data that are available will have to be identified through interviews with individuals involved in education or who have an interest in collecting statistical or education-related data.

Published data are more readily available than data from unpublished sources and, therefore, take much less time to obtain. In addition, published data are by their nature more convincing than data from other sources. In spite of the time required to obtain them, interviews are a rich source of data whose value should not be underestimated. In addition to providing access to other data sources, interviews often result in discussion of sensitive topics that might never be included in a written report. Such discussions can provide the team member with valuable insights into critical issues that may not be readily apparent from the existing data. In many cases, insight into such issues enables them to be addressed easily on the basis of existing data. For example, a particular individual might be hampering implementation by not giving timely approvals. It is unlikely that this information would ever be published but the information might be readily shared in an interview. This information should cause the assessor to look at the approval process and, if appropriate, it might be possible to recommend changes in that process so the one individual would no longer have such a delaying influence over implementation.

Data on a certain topic are sometimes just not available. In such cases it is important for the team member to determine how important these data needs are and then to discuss the problem with the team leader and any other appropriate individuals who should be invited to such discussions by the team leader. If the data are not critical for the assessment but important in the long run, their absence should be noted in the assessment report with recommendations concerning the value of collecting them. If they are critical it is then important to determine if an appropriate proxy (that is, other data that could substitute) is available. For example, levels of teacher certification might be used as a substitute for measures of teacher qualification. In this case it is recognized that certification does not guarantee that a teacher will be good but it is likely that training will result in a better qualified teacher. It may become necessary to collect a *sample* of data on the topic if the information is critical and a proxy cannot be found. This was done for the Haiti assessment, for example, to obtain estimates of costs for primary education in the private sector.

- *Timeliness* of data means that data should have qualities of time that can be of service to the assessment. Two areas are of particular importance in this regard. First, data should be current. That is, they should describe the current situation rather than what existed one year or several years previously. It is also useful to have information on how data have changed over recent time, however. Second, data should be introduced into the sector assessment process as early as possible. Current data that become available on the day the final written document is due to be presented to the minister, for example, are not likely to be of service because they are likely to be too late to contribute to the assessment analysis. The later data are found by the assessor (that is the less timely they are) the greater are the chances that they will not contribute positively to the content of the assessment.

- Scale and level of aggregation are two important aspects of data that should be kept in mind throughout an assessment. Though closely related, they are slightly different. *Scale* relates to the relative size or importance of a grouping within a system. For example, an education subsector generally consists of students, in classrooms, in schools, organized by districts within regions, and, ultimately, within a nation. Classroom studies would be at a much smaller scale than those conducted at the regional or national level. The *level of aggregation* refers to the clustering of data from one scale to another. For example, enrollment data from all 100 schools in a nation might be totaled, or aggregated, into the number of schools in each of 10 regions. This would decrease the number of data points from 100 to 10 and allow for comparisons among regions. This aggregation no longer would allow for comparisons between individual schools, however.

- Data *accuracy* refers to their state of exactness or precision. The more accurate data are, the more likely it is that analyses and decisions based on them will be valid and will improve the education system. For example, if data indicate that 75 percent of primary school-age children are in school and a policy to increase enrollments of school age children to 90 percent is implemented it is possible to calculate how many more schools and teachers will be needed. If the data are inaccurate, however, and in reality only 50 percent of primary school-age children are in school the government should plan to provide places for 40 rather than 15 percent of these children. The cost implications of the lack of accuracy of these data are obviously significant.

It is important to be able to recognize when inaccuracy of data is a serious problem and when it is not significant in a sector assessment. The example cited immediately above (making a decision about investing in additional school places) is a clear example of the kind of situation in which accurate data are needed and where it would be worthwhile to attempt to get additional information if available data were inaccurate. In other cases, such accuracy is not so critical. For example, if published statistics from the Ministry of Education show that only 25 percent of primary school teachers have received training it may not be particularly important whether 23 or 50 percent is a more accurate figure as all figures in this range direct attention to consideration of the need for increasing the training level of these teachers.

6.4 SUBSECTOR DATA REQUIREMENTS

This part of Chapter 6 identifies the kinds of information required to support the analyses necessary for a sector assessment. Data are presented and described in the first part of each sector assessment chapter, and comprise the foundation of the status section. The *status* section of each chapter reviews the current situation of the subsector under consideration. This review includes a brief description of the history of the subsector, a summary statement of national goals and strategies for the subsector, a description of the subsector's structure, and a detailed description of its program.

The first three parts of the status section should be brief and concise, because many aspects of the history and structure of the subsector will have been included in the chapter on history, structure, and management capacity of the entire sector. Some of the referenced assessments have introductory sections with historical information about the general social and economic context, and the education sector in particular, that is duplicated in some of the other subsector chapters. This manual recommends a change from this practice to save time and costs. Authors of subsector chapters should assume that readers have read the three following chapters: synthesis; economic and financial analysis; and history, structure, and management capacity. Information in these chapters should not be fully duplicated in the subsector chapters, but may be incorporated by reference. Emphasis must be on presenting detailed and complete information on the specific subsector program.

The *program* is the subsystem and its component activities that support the subsector goals. The program is emphasized because of its importance in the education endeavor. This part of Chapter 6 identifies the kinds of data that should be included in the program section of an assessment chapter. Section 6.1, an earlier part of this chapter, addressed the importance of focusing on policy. That section discussed policy questions and indicated that they should provide guidance with regard to data collection. Assessors will find they are engaged in an iterative process, however. The general policy questions they have formulated indicate what data are needed. Those data often generate new or slightly different policy questions which, in turn, provide guidance for additional data collection. This section provides examples of the kinds of data needs that are generated by policy questions. The sequence in which these data are presented is discussed in Section 7.3 of Chapter 7, which addresses format. This present chapter focuses on the data needs.

Current, relevant, and reliable data are essential for describing the structure and content of any subsector and they must be understood in order to analyze a subsector. Examples of the types of data that should be obtained are listed below under the headings commonly used in the status section of an assessment chapter. Some of these data may not be available in every country and some countries will have unique data types that should be included in an assessment. In the Yemen Arab Republic, for example, the sector assessment included data on the Koranic schools because they provide educational services to a large number of children.

When collecting current status data it is important to focus on realistic information--on what exists and not on what is planned to be accomplished. Although it is useful to refer to what exists in relation to planned objectives in other parts of the chapter, it is essential that this be done only where appropriate. The status section must describe the subsector as it currently exists as this comprises the baseline against which future improvements can be measured.

In some cases, the full set of data specified below will not be available from any reliable source, or the available data may not be current. It is important to collect those data that are available and to look for relationships within them. For example, are most certified teachers in urban schools or are they evenly distributed between urban and rural locations? It should be noted that the kind of assessment described in this manual does not recommend the preparation and conduct of extensive surveys to gather basic data. Where data are incomplete, the best available estimates should be used, even if they consist of informed opinion, as the basis for the assessment.

As this section is read it will be very useful to keep one or two of the referenced sector assessments open to the particular subsector chapter for which the reader will be responsible and to refer to these chapters for examples of what data were found and how they were presented. Readers with assignments outside the formal education subsectors will have to make some additional adjustments to the suggestions found here. For example, nonformal education occurs in a wide range of ministries, covers a variety of topics (e.g., health, agriculture, income generation, and population planning), and may have several very different programs within any one of these topics. Nevertheless, the approach described in this manual has been useful as a guide to assessing the less traditional parts of the education sector as well as the formal education subsectors. Chapters from the referenced assessments will be particularly useful as examples for readers with writing assignments outside the formal education subsectors.

The remaining parts of this section on subsector data requirements cover data needs in the following areas: administration; students; teachers; curriculum; examinations; facilities and equipment; costs and financing; and quality of instruction. They also give examples of issues on which the data provide information.

- **Administration.** Data in this section of the assessment should describe how the activities of the particular subsector are managed. The information should be unique to the subsector and should complement and supplement that provided in the chapter on the education sector's history, structure, and management capacity. It should not duplicate the earlier chapter. Information should be presented on the following areas:

    - organization (chart depicting location of subsector within the ministry or ministries and detailed administrative structure, including functions and staffing of each unit)
    - supervisory structure (how inspection is conducted, by whom, and how frequently)
    - management personnel qualifications and capabilities
    - supply and demand of management personnel
    - communication links throughout the subsector
    - school directors' (headmasters, principals, deans, presidents, etc.) qualifications
    - teacher appointment, review, salary, and promotion policies
    - source of policy decisions

- costs for managing the system
- projections of future management needs

The following is an example of information from the status section of a chapter addressing primary education administration in Haiti:

> Public or private, schools are the responsibility of the school director, both for day-to-day operations and for policy. The director is the link to the Ministry of Education, the inspectorate, and the school system if the school participates in one.
>
> No quantitative data are available on directors. In many cases, especially in private lay schools, the director is a teacher who has decided to start a school. Thus, directors usually have no better qualifications than their poorly trained teachers. In general, they receive significantly higher salaries than teachers. (Haiti sector assessment, pp. 5-20 & 5-21)

This information, although not quantitative, clarifies that policy formulation is very decentralized, and that the school director has a significant role in terms of communication links throughout the subsector. These data also indicate that few school directors have received training that would help them to be effective in their complex role.

For the most part data on administration contribute to the theme of administration and supervision. They also provide information related to costs and certainly would influence any policy options or recommendations that would require different management behaviors or structures than those currently in existence.

- **Students.** Students, or learners, are a major focus and the immediate beneficiaries of program activities within each subsector. Although their characteristics will vary among subsectors, the following kinds of data should be presented for all students:

  - enrollments (by grade or level; by program type; by gender; by region; by location [urban or rural]; by type of school [public or private])
  - age distribution for each grade level
  - percentage of the primary school age group in primary school (net enrollment)
  - children in primary school as a percentage of the primary school age group (gross enrollment--may be more than 100 percent)
  - admission criteria
  - cohort flow data (information on groups of students who begin the same grade together)
    - progression rates (rates at which cohorts progress from grade to grade)
    - repetition rates by grade
    - dropout rates by grade
    - graduation rates and numbers
  - progression rates of graduates to further training or occupations
  - enrollment projections

In many countries much of the aggregated data on students are available from government statistical publications. Such data may include numbers of students by school, identified by grade and gender. Where these kinds of tabulated data exist they can be reproduced in the assessment with their sources cited. Other kinds of data, such as information on dropouts and repeaters, may not be so readily available. In these cases they have to be sought out. Or, if they are available they may not be presented in a form useful for the assessment chapter. In such cases appropriate tables have to be constructed whenever possible.

Two examples of data describing student characteristics are given immediately below (Tables 6.1 and 6.2). Data in these two tables describe different aspects of students in the first three-year cycle of secondary school (junior secondary [JS] school) in Botswana. Readers may refer to this chapter in the referenced assessment for additional information on these data.

Table 6.1 is an example which shows the progression of graduates in Botswana from the third year of junior secondary school (Form III) to the first year of senior secondary school (Form IV) from 1972 through 1981. Note that the table separates the data for Form III students according to the type of secondary school completed by students (Government Aided Schools versus Community Junior Secondary Schools [CJSS]). Note also, however, that the table does not indicate whether there is a different progression rate for students from Government Aided Schools than for students from the CJSSs. This information would be relevant to estimating the quality of instruction within the two types of schools if these rates would be significantly different.

Table 6.2, which also presents data on junior secondary school students from Botswana, contains very different kinds of information. Whereas Table 6.1 reflects what happens to students after completion of junior secondary school, the information in Table 6.2 shows the progression of students within each of the two kinds of junior secondary schools. The table follows separate cohorts of students through three years of junior secondary school for seven full years (1971 through 1979), and includes projected enrollments in Forms I through III beyond 1979. (A *cohort* is a group of students who start the same grade in school together.) The figures in the rows labelled Loss Rate and Retention Rate show that the Government Aided Schools are better able to retain students in school through the entire three-year junior secondary cycle than the CJSSs.

Table 6.1

JC Completers Who Enter Form IV
1972 - 1981

Year	Form III Govt/Aided	Form III CJSS	Total	Form IV Following Year	Percentage
1972	1,230	N/A	N/A	554	N/A
1973	1,494	555	2,049	720	35.1
1974	1,650	708	2,358	891	37.8
1975	1,694	817	2,511	878	35.0
1976	2,206	959	3,165	1,094	34.6
1977	2,566	1,107	3,673	1,207	32.9
1978	2,650	1,364	4,014	1,306	32.5
1979	2,783	1,257	4,040	1,557	38.5
1980	3,072	1,122	4,194	1,557	37.1
1981	3,393	1,125	4,518	---	---

Source: Ministry of Education

Note: This is Table 5.6 from page 5-18 of the Botswana sector assessment.

Table 6.2

Profile of Progression Comparison, Government Aided Schools and CJSSs

Form	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
GOVERNMENT/AIDED										
Form I	1826	2362	2812	2861	2902	3345	3653	3929	4062	3947
Form II	1776	1792	2334	2746	2800	2891	3259	3613	3841	3851
Form III	1494	1650	1694	2206	2566	2650	2783	3072	3393	3766
Number Lost	-	-	132	156	246	211	119	273	260	
Loss rate	-	-	7.2	6.6	8.7	7.3	4.1	8.2	7.1	
Retention Rate	-	-	92.8	93.4	91.3	92.7	95.9	91.8	92.9	
CJSS										
Form I	1083	1487	1483	2126	2182	1667	1796	2152	2548	
Form II	973	1058	1338	1297	1776	1848	1417	1547	2048	
Form III	555	708	817	959	1107	1364	1257	1122	1125	
Number lost	-	-	266	528	376	762	925	545	671	
Loss rate	-	-	24.6	36.6	25.4	35.8	42.4	32.7	37.4	
Retention rate	-	-	75.4	63.4	74.6	64.2	57.6	67.3	62.6	

Note: This is Table 5.5 from page 5-16 of the Botswana sector assessment.

Student data can provide information for all issue areas. In particular, these data assist in addressing external efficiency, internal efficiency, access and equity, and cost issues.

- **Teachers.** Teachers are an important part of every education system. They are responsible for implementing the curriculum and for producing successful students. Their salaries are generally a major portion of the sector's budget and, if they are a well organized profession, they may also comprise a significant political force. The teacher training chapter should contain the following data on teachers:

  - numbers by grade or level; program type; gender; region; location (urban or rural); type of school (public or private); and by nationality or local/expatriate status
  - distribution by formal training (academic and pedagogical) and by experience
  - distribution by subject specialization
  - definitions of qualified, unqualified, and underqualified
  - salary schedule
  - attrition rates
  - age distribution for each grade or level
  - projections of future teacher requirements by subject, location, and qualifications
  - teacher supply (annual production and/or intake by level)
  - student/teacher ratios
  - number of trained teachers not engaged in classroom teaching

Two examples of information about teachers are provided immediately below in Tables 6.3 and 6.4. Both are from the teacher training chapter of the referenced Somalia sector assessment. Readers are encouraged to examine this and the other referenced assessments for additional examples of how data on teachers may be presented.

Table 6.3

Number of Teachers by Source of Employment (1981 - 1982)

Source of Teachers	Secondary Level		Primary Level	
Full--time	Number	Percent	Number	Percent
Permanent	928	59%	7,199	86%
National Service	600	35%	1,172	14%
Expatriate	102	6%	0	0%
Subtotal	1,630	100%	8,371	100%
Part--time*				
Somali	388	--	0	--
Expatriate	0	--	0	--
Subtotal	388	--	0	--
Total Headcount	2,018	--	8,321	
FTE Total	1,894	--	8,321	

*Part--time computed as 2/3 FTE

Source: Ministry of Education

Note: This is Table 9.1 from page 9-2 of the Somalia sector assessment.

Table 6.4

Projections of Primary and Secondary Teacher Demand (1982-83 Through 1990-91)

	Primary Teachers	Secondary Teachers	Voc/Tech Teachers
1982-83	6,921	2,079	569
1983-84	6,890	2,145	574
1984-85	7,144	1,696	579
1985-86	7,191	1,488	607
1986-87	7,219	1,444	643
1987-88	7,422	1,366	673
1988-89	7,681	1,380	683
1989-90	8,003	1,278	693
1990-91	8,259	1,194	703

Source: Based on enrollment projections from Tables 2.16, 2.17, 2.18 and the following student/teacher ratios: Elementary - 40:1, Intermediate - 27:1, General Secondary - 24:1, and Vocational/Technical - 20:1.

Note: This is Table 9.2 from page 9-16 of the Somalia sector assessment.

Table 6.3 summarizes a considerable amount of information about the Somali teaching force, giving comparable information for primary and for secondary education. It is possible to determine the numbers of full- and part-time teachers in each subsector as well as whether they are Somalis or expatriates. This information is important because it can provide the basis for an analysis of the structure of the teaching force as well as the financial implications of any projected changes that may affect that structure.

Any national goals that include changes in enrollments will require some analysis of the existing teaching force and projections of future needs. Table 6.4 is a good example of data on teacher projections. It covers a 9-year period and estimates future needs in primary and secondary education, including the needs for teachers with specialized skills in vocational and technical education. The table is a good example because it refers to the other data sources in the Somali assessment that were used as the basis for the projected teacher needs. Teacher projections cannot be considered alone, however. They must be viewed in light of teacher demands.

Information on teachers is very important because they are an important part of every subsector. Data on teachers can inform every one of the analytic themes used in the assessment methodology described in this manual. For example, teacher distribution may be relevant for issues of access and equity and for concerns about local financing of teacher salaries.

- **Curriculum**. The *curriculum* is the course of study offered. The curriculum description should address both the content and the methodology that is used to teach it. One or several curricula may be followed within a subsector. Information on the curriculum should include the following:

  - -- scope and sequence of curriculum
  - -- whether it is national, regional, institutional, or program specific
  - -- by whom it was designed and when

- instructional materials required by grade or level
- instructional materials actually available by grade or level
- teaching methods
- language of instruction by grade or level
- relevance of curriculum content to students' subsequent activities

In some cases it is difficult to locate complete and accurate data on curricula. This is partly because it is difficult to determine how closely what happens in individual classrooms actually reflects what is written in the official materials that specify what should be covered in each subject and grade. In this section we will cite examples related to curriculum descriptions from the referenced assessments for the Yemen Arab Republic and Somalia.

Table 6.5 gives some basic information on the primary education curriculum by grade and subject in the Yemen Arab Republic. The table indicates the hours of instruction per week, for each of the six grades, that are prescribed for each of the seven content areas. This information alone may not be very helpful in the assessment. In situations like this it is important to present discussions in the chapter that place such data in context.

The following is an example of some of the text that discusses the curriculum, described in Table 6.5, and places it into context.

> The policy of Yemenization of the curriculum has led to the establishment within the MOE [Ministry of Education] of a special directorate, under the Director General of Technical Affairs, responsible for overseeing curriculum development. The responsibilities of this unit include the adoption of new text materials, implementation of the curriculum, and evaluation of student performance. This policy and its implementation represent a substantial part of the intensive effort to produce new materials that will be more consistent

Table 6.5

Curriculum for Primary Education (Hours per Week)

	Grade One	Grade Two	Grade Three	Grade Four	Grade Five	Grade Six
Islamic Education	8	8	8	8	8	8
Arabic	9	9	9	9	9	9
Social Studies	-	-	2	2	4	4
Science	3	3	3	3	3	3
Mathematics	5	5	5	5	5	5
Art Education	2	2	2	2	3	3
Physical Education	2	2	2	2	2	2
TOTAL HOURS	29	29	31	31	34	34

Source: Ministry of Education, Department of Curriculum, 1984.

Note: This is Table 4.9 from page 4-24 of the Yemen Arab Republic sector assessment.

> with the goals and objectives of the educational system in Yemen and more responsive to the special needs of the student population of the YAR [Yemen Arab Republic].
>
> The ERDC [Educational Research and Development Center] has taken the lead in developing a research program related to curriculum issues. In addition to the study of attrition and repetition at the primary level (and its implications for curriculum) the Center also has conducted a comparative study of curriculum between the YAR and the People's Democratic Republic of Yemen and an analysis of a proposed curriculum for the YAR. Table 4.9 presents the present planned curriculum for primary education in terms of the hours per week allocated, at each grade level, to the subject areas of Islamic education, Arabic language, social studies, science, mathematics, art education, and physical education. Islamic education and Arabic language instruction dominate the time allocation at all levels; they represent 58.6 percent of class time in Grade One and 50.0 percent in Grade Six. (Yemen Arab Republic sector assessment, p. 4-23)

The assessment from the Yemen Arab Republic is an excellent example of the need to be flexible and to adapt the assessment approach and format to the specific characteristics of the education sector under consideration. To address curriculum in the vocational and technical education subsector it was necessary to describe the curriculum for each of three major programs: Vocational Training Centers, Technical Secondary Schools, and Commercial Secondary Programs. In this case the curricula for all of these were described in the vocational and technical education chapter rather than dividing them between that chapter and the one on secondary education. These descriptions are on pages 6-4 to 6-36 of the Somalia assessment.

In Somalia the issue concerning the language of instruction throughout the sector was so critical it was decided to devote a separate chapter to this topic rather than include it within the discussions of the curriculum in each subsector chapter.

Questions about curriculum are most likely to influence policy changes that result from considerations of external and internal efficiency. They are not limited to this, however. For example, addressing concerns about regional disparities or particular ethnic considerations might involve decisions that have a significant influence on curricular content.

- **Examinations.** In many education systems examinations are intended to serve as a means for quality control. That is, they ensure that a given subsector is providing students with the prescribed skills and training. In many countries these are external examinations -- ones that are prepared, administered, and graded by an agency separate from the schools. Primary school leaving examinations are a common example of such examinations. Information about such examinations should be provided on the following topics:

  - form of the examinations by grade or level and type of program (e.g., multiple-choice, essay, applied skills)
  - prerequisites for taking examinations
  - number and proportions of students enrolled at each level taking the examinations
  - pass rates by level, gender, region, and location (urban or rural)
  - who designs, grades, and sets pass rates for the examinations
  - purposes served by the examinations (e.g., entry to next level of schooling, evaluation of teacher or school performance, determination of areas for curricular improvement)

Examples of data relating to examinations are from the chapters on primary and higher education of the referenced Indonesia sector assessment. Table 6.6 presents the results of examinations taken by students at the end of the 6th and final year of primary school. The table provides separate informa-

Table 6.6

Primary School Educational Achievement by Province

(1975 and 1984 Grade 6 Quality Study and 1985 EBIANAS)

	PROVINCE	1975 SCORE	1984 SCORE	ALL SUBJECT RANKING 1975	1984	RELATION TO NAT. MEAN* 1975	1984	1985 EBIANAS	Ranking EBIANAS	Relation to Nat. Mean
1.	DKI Jakarta	155.58	288.53	1	1	+	+	7.04	1	+
2.	Jawa Barat	133.66	230.31	6	13	+	-	6.53	3	+
3.	Jawa Tengah	124.53	249.77	11	8	-	+	5.66	17	+
4.	DI Yogjakarta	-	276.89		2		+	5.87	11	+
5.	Jawa Lisur	127.92	243.83	8	12	-	+	5.50	21	-
6.	DI Aceh	103.81	203.45	20	25	-	-	6.07	9	+
7.	Sumatera Utara	132.52	268.88	7	6	+	+	5.15	22	-
8.	Sumatera Barat	135.14	249.27	5	9	+	+	6.47	4	+
9.	Riau	109.76	238.01	16	14	-	-	6.22	8	+
10.	Jambi	109.76	267.79	16	3	-	+	5.56	19	-
11.	Sumatera Selatan	146.50	244.53	2	11	+	+	5.68	16	+
26.	Bengkulu	139.14	220.26	3	21	+	-	5.00	23	-
12.	Lampung	127,16	229.74	9	19	-	-			
13.	Kalimantan Barat	106.89	260.92	18	4	-	+	5.80	13	+
14.	Kalimantan Tengah	116.31	228.86	14	20	-	-			
15.	Kalimantan Selatan	119.88	258.64	12	7	-	+	5.63	18	+
16.	Kalimantan Lisur	119.88	246.62	12	10	-	+	6.35	6	+
17.	Sulawesi Utara	116.30	236.61	15	16	-	-	5.69	15	+
18.	Sulawesi Tengah	116.23	204.90	13	24	-	-	5.79	14	+
19.	Sulawesi Selatan	109.63	231.65	17	18	-	-	5.86	12	+
20.	Sulawesi Lenggara	109.63	219.00	17	22	-	-	4.87	24	-
21.	Maluku	125.79	260.55	10	5	-	+	6.59	2	+
22.	Bali	135.69	236.96	4	15	+	-	6.44	5	+
23.	Nusa Lengg. Barat	96.99	217.03	21	23	-	-	6.02	10	+
24.	Nusa Lengg. Lisur	104.60	235.28	19	17	-	-	6.25	7	+
25	Irian Jaya		186.76		26		-	5.54	20	-
27.	Lisor Lisur							4.86	25	-
	INDONESIA	131.8083	241.6444					5.632307		

* (+ Above; - Below national mean)

Note: This is Table 5.17 from page 42 of the Indonesia sector assessment primary education chapter.

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tion on scores of students in 27 provinces for 1974, 1984, and 1985. The scores for 1985 are given separately because it was the first year when a national test for all subjects was introduced. Examinations were developed at the provincial level before 1985. Data at this level of presentation are useful because they allow for analysis of differences in performance at regional levels and may provide information regarding regional disparities. Further discussion of these data is given on pages 5-40 through 5-41 of the Indonesia assessment.

The manual has stressed that quantitative data are very useful for analyses, but that qualitative information can often be equally informative. The following is an example of qualitative data on examinations from the higher education chapter of the Indonesia sector assessment.

> Entrance to public higher education in Indonesia is primarily by means of a nationwide entrance examination. In 1984, 724,856 sat for the exam, and 138,114 (approximately 19%) were admitted to universities. Those whose scores are not high enough on the list for them to be admitted have several options: go to work, take the exam the next time (they may take the exam three times), apply to the Open University, or go to a private university. The private universities also have their own examinations for admissions. Because many students are unable to score high on the public examination, they enroll in special private coaching academies to prepare themselves for the next exam. This is quite expensive for the average person. (Indonesia sector assessment, p. 9-28)

If the data were available, it would also have been useful to know what determined the passing rate and how many passed the examination in addition to knowing how many were actually admitted to a university. This information might have provided some insight into the demand for higher education.

Results from valid examination procedures are especially useful for information on external and internal efficiency. They can also provide valuable information on issues relating to equity and to supervision.

- **Facilities and Equipment.** Most formal education takes place in facilities that are used only for educational activities. There is some professional disagreement about the specific role of facilities and equipment with respect to enhancing the learning process but it is still important to know what facilities and equipment exist and what their condition is. The following kinds of data should be presented with regard to facilities and equipment:

-- number of schools or institutions by level, program type, region, and location (urban or rural)
-- number of classrooms by level, program type, region, and location (urban or rural)
-- distribution and sizes of schools or institutions by level, program type, region, and location (urban or rural)
-- distribution of class size by level, program type, region, and location (urban or rural)
-- distribution of facilities by age, usable condition, and by utilization (single or double session)
-- necessary renovation or maintenance expenditures (amounts required and by whom to be paid)
-- support equipment and special facilities (e.g., libraries or laboratories)

In many countries there is adequate information on educational facilities, but limited information on equipment. Facilities represent investments of a large proportion of the funds available within the education sector, and a major expenditure of some external assistance agencies, so it is important to have information on them. Examples of information on facilities have been selected from the Haiti sector assessment and are presented below in Tables 6.7, 6.8, and 6.9.

Table 6.7 presents the primary schools by sector (public or private), type (sponsoring agency), and department (region). This kind of information is much more useful when it is considered in relation to other information, however. For example, the fact that there are about 700 more schools in the Ouest (West) than in the Nord-Est (North East) region may be a function of differences in sizes of populations or it may mean that the Nord-Est region is underserved. Further discussion of the information in this table is given on pages 5-76 through 5-84 of the Haiti assessment.

Student/classroom ratios are an index of crowding in schools. Table 6.8 contains student/classroom ratios by department (region) in Haiti. This information suggests that facilities are inadequate for the numbers of students in the Sud-Est (South East) region in relation to other areas of the country. As indicated by the source note in the table, this is a good example of the use of unpublished information that was not immediately available and had to be located by the person responsible for the chapter. Note that student/classroom ratios do not necessarily provide information on class size as several classes may share the same classroom.

Table 6.9 also provides information on the utilization of facilities, even though it was included in the part of the subsector chapter on teacher characteristics. It indicates the number of teachers, by department (region) and gender, that teach multiple grades. These data suggest that there are a significant number of Haitian primary school teachers who are teaching more than one grade, and most likely in the same classroom. It is important not to assume that these teachers' classrooms are necessarily overcrowded, however, because the number of students in each grade may be very small. These data should alert the assessor to ask additional questions about the situation, however.

Information on facilities and equipment may provide useful information on some aspects of the quality of instruction, therefore helping to identify issues of internal and external

Table 6.7

Primary Schools By Sector, Type, and Department (1982-83)

	Public			Private						Total
Department	Lay	Congreg.	Total	Lay	Congreg.	Presby.	Mission	Comm.	Total	
Ouest	168	30	198	275	47	28	267	18	635	833
Nord	130	23	153	55	13	29	147	8	252	405
Nord-Est	57	6	63	9	6	16	37	4	72	135
Nord-Ouest	57	6	63	13	5	28	93	5	144	207
Artibonite	130	12	142	70	5	64	229	18	386	528
Centre	67	5	72	34	8	14	85	14	155	227
Sud	70	26	96	56	14	60	71	9	210	306
Sud-Est	71	7	78	39	1	25	54	14	133	201
Grande-Anse	123	12	135	60	8	48	119	29	264	399
TOTAL	873	127	1,000	601	107	312	1,102	119	2,241	3,241

Source: DEN, *Annuaire Statistique*, 1982-1983 (1984).

Note: This is Table 5.29 from page 5-65 of the Haiti sector assessment.

Table 6.8

Primary Student/Classroom Ratios By Department

Department	Students	Classrooms	Student/Classroom Ratio
Ouest	224,622	6,323	35.5
Nord	85,353	2,247	37.9
Nord-Est	28,326	634	44.8
Nord-Ouest	47,714	853	55.9
Artibonite	112,600	2,427	46.3
Centre	40,383	850	47.5
Sud	70,614	1,717	41.1
Sud-Est	42,410	718	59.0
Grand-Anse	70,992	1,593	44.5
Haiti	723,041	17,362	41.6

Source: Compiled from DEN *Annuaire Statistique* (unpublished).

Note: This is Table 5.31 from page 5-67 of the Haiti sector assessment.

efficiency. Information on the status of facilities can also have important cost implications that need to be taken into consideration when making recommendations for improving the education sector. The information can also be used to delineate access and equity issues.

- **Costs and Financing**. *Costs* refer to the amount of funds required to accomplish a given educational task and *financing* refers to the sources of these funds. Data should be presented on both of these economic aspects for each subsector. Information should be given on the following:

  - -- costs per student year by program or curriculum
  - -- costs per graduate by program or curriculum
  - -- sources of financing by program or curriculum
  - -- sources and types of financing for central government, region, local community, school, families, and students
  - -- role of external assistance agencies in financing educational activities, both for capital and recurrent costs
  - -- financial commitments to this subsector in relation to other subsectors and the entire education sector expenditures

Much of the information on costs of education in the different subsectors will be prepared by the economist who is responsible for the economic and financial analysis chapter. What is essential, however, is that each team member collect basic data so that the economist can calculate unit and cycle costs. It is not the sole responsibility of the economist to gather this data. This is particularly the case for subsectors outside formal education because these data are spread over a range of sources which may be best known to the individuals examining these subsectors.

It is important that the costs and financing data in the status section of each subsector chapter be consistent with the data and information provided in the economic and financial analysis chapter. Examples of how this might be done are

Table 6.9

Rural Public Primary Teachers By Level Taught and Gender According To Geographic Department (1982-83)

	Total		Enf		1		2		3		4		5		6	
Department	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ouest	288	194	11	19	23	20	22	41	30	17	26	14	13	3	11	--
Nord	165	210	7	46	9	27	9	36	5	13	14	7	3	11	7	6
Nord-Est	88	41	10	2	--	8	7	2	--	--	--	--	6	--	--	--
Nord-Ouest	74	40	4	5	1	4	--	3	--	1	3	--	--	--	--	--
Artibonite	285	128	11	24	18	38	18	33	[illegible]	11	19	18	16	9	33	--
Centre	85	33	7	2	4	3	5	3	--	7	2	2	4	--	4	--
Sud	58	101	3	3	--	13	7	14	4	9	9	8	6	7	9	8
Sud-Est	93	31	11	2	17	6	13	7	6	2	3	1	3	--	4	1
Grand-Anse	214	88	14	10	12	11	11	10	9	2	11	2	12	--	8	--
Total	1,332	863	78	131	80	188	93	128	72	76	83	60	69	33	64	9

	1-2-3		4-5-6		1-2		3-4		5-6		3-4-5-6		Not Det.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ouest	4	--	5	--	13	11	25	4	36	5	22	--	14	13
Nord	16	2	6	2	14	14	23	3	27	7	7	--	20	28
Nord-Est	12	3	5	--	15	5	20	7	7	--	--	--	10	18
Nord-Ouest	3	4	7	--	8	9	11	3	15	1	7	--	15	13
Artibonite	11	3	6	--	18	13	30	1	45	3	8	--	27	2
Centre	7	--	--	2	2	7	7	--	9	--	11	--	23	9
Sud	1	--	1	--	9	8	10	6	16	3	4	--	9	32
Sud-Est	7	3	5	1	7	3	8	1	7	2	6	1	--	--
Grand-Anse	12	1	2	--	14	11	25	2	27	--	21	--	24	21
Total	80	19	43	5	100	75	159	28	189	30	89	1	142	148

Source: DEN, *Annuaire Statistique*, 1982-1983 (unpublished).

Note: This is Table 5.20 from page 5-45 of the Haiti sector assessment.

given below from the primary education chapters of the referenced Somalia and Haiti assessments.

The following selections from the Somalia assessment provide an example of how the primary chapter and economic and fiscal analysis chapter are linked.

> The costs and financing issues in primary education are relatively simple. As noted in Section 2.0, the low wage cost of primary education helps to offset the effect of the relatively low student/teacher ratios. The low wages, however, contribute to the high turnover of teaching staff. Nevertheless, unless there are recurrent surges in primary enrollments in the next few years, the existing system should be able to adapt to the projected enrollment levels, even given teacher attrition. (Somalia sector assessment, p. 6-58)
>
> Unlike other subsectors, the cost and financing issues for primary education do not constitute an immediate policy concern. As the primary education program of quality enhancement takes place, costs will undoubtedly increase both in a per-student and aggregate sense. The earlier fiscal capacity analysis in Section 2.0 suggests that, with proper planning, these cost increases should not represent an undue burden on government's fiscal capacity. (Somalia sector assessment, p. 6-59)

Another example is taken from the Haiti sector assessment. Part of the text is given below to illustrate the kinds of information that can easily be incorporated into the text of a subsector chapter.

> Primary school finances, including analyses of unit costs and the rate of return, have been discussed fully in Chapter 2 of this assessment. As shown in Chapter 2 (Table 2.54), unit costs vary considerably within the private sector, ranging from $30 to $265 per year.

> Urban private schools tend to be more expensive than rural ones, averaging about $146 and $52, respectively. In general, there is not a great deal of difference between the unit costs of private ($99) and public schools ($100). What is significant is who bears the burden of that cost. Government bears a little over 40 percent of the cost of those in public schools and none of the costs of the 60 percent of children who are in private schools. (Haiti sector assessment, p. 5-70)

Table 6.10 is an example of the type of information that can be presented relating to contributions of external assistance agencies to the financing of education in a particular subsector. The data are estimates that were collected during the Haiti sector assessment.

In addition to providing information critical to the thematic area of costs and financing, these data are also essential to addressing issues of internal efficiency. They are also very instructive for considerations of access and equity issues and administration and supervision issues.

- **Quality of Instruction**. The quality of instruction is very difficult to measure directly and information on this topic is usually very limited. Many studies quantify this aspect of education by using indirect (proxy) indices such as costs spent per student year of instruction or proportions of trained teachers. It is an important aspect of education, as the quality of instruction will influence the quality of graduates from a subsector and, ultimately, the internal efficiency of that subsector and the system in general. For a better understanding of possible measures of the quality of instruction, readers are referred to *Raising School Quality in Developing Countries: What Investments Boost Learning?* by Fuller. School quality data should include the following:

-- type and predominance of pedagogical methods used
-- availability of instructional materials such as textbooks, by subject, by classroom, and by student

Table 6.10

Estimated Donor Contributions to Primary Education

Donor	Duration	Total (millions)	From Donor	From Government
World Bank I	1976-82	$ 7.6	$ 5.5	$ 2.1
World Bank II	1981-85	12.7	a	a
World Bank III	1983-86	10.0	a	a
World Bank IV	1985-88	24.6	10.0	7.6
Swiss Govt.			7.0	
IDB, EASPNH	a	10.0	16.2	3.8
UNICEF	1983-86	9.1	a	a
UNFPA	1982-86	.38	a	a
OAS	1982-87	.31	a	a
Unesco/UNDP	1982-86	b	b	b

[a] Not known
[b] Not available

Source: Interview data

Note: This is Table 5.32 from page 5-87 of the Haiti sector assessment.

- -- student/teacher interaction levels
- -- availability of supplies and equipment (paper, pencils, chalk, blackboards)
- -- amount of the school day actually devoted to learning tasks (time on task)
- -- approximate number of school days teachers are present
- -- approximate number of school days children attend class

In some situations it might be necessary to use proxy data as a substitute for direct measures of quality of instruction. An example is taken from the primary education chapter of the Botswana sector assessment. This example examines the relationship between performance by district on the primary school leaving examination (PSLE) and the percent of trained teachers as shown in Table 6.11. There was no statistically significant relationship. This information was then used to address issues relating to quality of instruction in the analysis part of the chapter. Further information on this particular analysis is given on pages 4-40 through 4-43 of the Botswana assessment.

In the secondary education chapter of the Haiti sector assessment, quality of instruction was described in the following way:

> The quality of instruction varies greatly among schools. Quality in the public *lycees* has suffered considerably in recent years. This has been the result of the increased enrollments and, by many reports, of the replacement of good instructors with less-qualified political appointments. Apparently this has affected some of the country's best *lycees*, where the quality of instruction reputedly was very good at one time.
>
> Instruction in many of the private schools is said to be poor. Many teachers have little training. Classes are large and crowded. Students who do not

Table 6.11

PSLE Grade by District Compared to the Percent of Trained Teachers

District	1982 PSLE	1983 Percent Trained Teachers
North East	2.18	61.9
Central	1.88	70.6
Kgatleng	2.07	68.2
Kweneng	2.23	68.7
Southern	1.93	68.0
South East	2.32	84.8
Kgalagadi	2.07	64.7
Ghanzi	1.78	69.5
North West	1.75	65.1
Gaborone	2.57	67.9
Francistown	2.30	86.3
Lobatse	2.19	84.0
Selebi-Phikwe	2.10	78.2
Jwaneng	–	–
Average	2.03	70.1

Note: This table is from page 4-40 of the Botswana sector assessment.

> make satisfactory progress are often passed to the next grade despite their performance.
>
> The quality in the best private schools is known to be good. School directors and teachers in these schools appear to be dedicated to excellence and by all accounts offer instruction of high caliber. The nation can take pride in the fact that its educational system has generated a domestic model of excellence. (Haiti sector assessment, p. 6-22 and 6-23)

It is essential that relevant and current data that describe the subsector program as fully as possible are provided in the status section of the subsector chapter. The relationships among these data will influence the analysis sections of the chapter. The themes that form the basis of this analysis are described in the following Section (6.5).

6.5 ANALYSIS

The analysis is the conceptual foundation of a sector assessment. It presents interpretations of the data that have been set forth in the preceding status section. The analysis must be based on existing data presented in the status section, and all statements in the analysis section should be verifiably based on cited information. As the reader goes through this part of Chapter 6 it will be useful to have one or two of the referenced sector assessments open to the particular subsector for which the reader will be responsible and to refer to them for examples of what was included in their analyses.

Before proceeding further, it is important to distinguish between data and analysis. The term "data" was defined towards the beginning of Section 6.3 of this chapter. An *analysis* is the separation or breaking up of a whole into its parts to understand their function, nature, and relationships. The two definitions show that data and analysis are very different. Whereas data are specific facts or figures from which conclusions can be drawn, analysis is a process through which something is understood and conclusions are drawn. The data provide the necessary information for understanding the object of the analysis.

There are six major sections in the analysis section of a sector assessment: needs, plans, constraints, issues, conclusions, and recommendations. Each of these is discussed below, with the section on issues receiving the most emphasis.

A *need* is a deficiency of something that is desired, useful, or required. The part of the chapter on needs should summarize the needs of the subsector. It should include a consideration of the difference between goals and accomplishments, or current status. The focus should be on major needs and concerns affecting the entire subsector and not on specific needs which might be symptomatic of a larger need. For example, lack of instructional materials may be a subsector-wide need whereas the lack of books in a particular university library is a much more specific need and less likely to be of interest to readers of the sector assessment document.

The following paragraph from the secondary education chapter of the Haiti sector assessment is an example of how major needs of a subsector might be presented:

> The preceding discussion of secondary education in Haiti suggests that the needs are many. However, the most important ones can be summarized as follows:
>
> 1. In the face of rapid and unplanned expansion of enrollments and the changing social composition of schools, there is a need for a fundamental rethinking of the purpose, structure, and content of secondary education. Although the Reform anticipates many of these changes, awareness must be translated into action.
>
> 2. There is a need to raise the general level of educational quality of

instruction while equalizing opportunities throughout the system.

3. There is a need to find ways to contain costs in order to keep the doors of secondary schools open to lower income families and to reduce the burden caused by school fees and textbook costs. (Haiti sector assessment, p. 6-25)

The purpose of the section on *plans* is to provide information on which needs will be met in the subsector and how they will be met. This section does not have to be extensive but it should be comprehensive. An example from the primary education chapter of the Yemen Arab Republic sector assessment follows:

> Major plans that exist relative to primary education are those for school construction, teacher production, and review of the curriculum. The ERDC [Educational Research and Development Center] has begun a coordinated school mapping study with the MOE. This survey will serve as a basis for new school location decisions based on enrollment demand, population concentration, topographic geography, and available transportation. While new school construction will continue under [the] SFYP [Second Five Year Plan], it is probable that a considerable shortfall will occur relative to the projected number of new classrooms.
>
> The second major plans are for the increased production of new Yemeni teachers for primary schools. These activities are covered in detail in Chapter 7.0. They are relevant here because of the financial, cultural, and pedagogical implications of the Yemenization of the teaching force.

> Finally, the MOE, in cooperation with the ERDC, is expected to continue its study of curricular programs for primary education. This activity is still at a preliminary stage and will advance depending on the priority assigned to it by government and by the donor community. (Yemen Arab Republic sector assessment, pp. 4-38 & 4-39)

A *constraint* is a restriction within the subsector with respect to attaining its objectives. Examples of constraints might be serious economic circumstances that limit the amount of funds available to the education sector for current or planned programs, or a policy decision that no additional funds will be available to particular subsectors until the needs of other subsectors have been met. The part of the chapter that addresses constraints should focus on major concerns related to the entire subsector. The constraints must be included because any attempt to provide feasible and realistic recommendations or policy options for a subsector must take these constraints into account.

The following example of constraints is from the secondary education chapter of the Botswana assessment:

> The primary external constraint to secondary education is the limitation posed by recent drought conditions and by the general worldwide recession with its associated reduction in prices and demand for Botswana's mineral and agricultural exports. A lack of real economic growth in the national economy will limit government's ability to finance educational expansion at the planned rate. The primary internal constraints to secondary education include the high proportion of unqualified teachers and poor facilities in some schools, and their consequent quality differentials. (Botswana sector assessment, p. 5-38)

Experience with several sector assessments has consistently demonstrated that it is useful to discuss the subsector issues within the context of five analytic themes or issue areas. Each of these will be described in some detail below. But first, it is important to clarify the difference between an issue and an analytic theme. An *issue* is a point, matter, or question to be discussed, disputed, or decided. An example of an issue might be the language of instruction in primary school or the effectiveness of diversified secondary education. An *analytic theme* is a specific topic or category that provides a focus for collecting and understanding existing data and specific issues. For example, the external efficiency theme addresses the relevance and appropriateness of a particular educational program. Using the issue of diversified secondary education cited above, the external efficiency theme would require that an assessment team member consider the relevance and appropriateness of diversified secondary education. The external efficiency theme will be discussed in more detail below so it is not necessary to be concerned with it further at this time, but it is necessary to recognize that a theme can provide a structure for analyzing data.

The five analytic themes that have been found very useful for organizing data relevant to a wide range of policy questions in previous sector assessments are external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing. Again, as with data collection, organization of the data and the emerging issues into the five thematic areas using the policy questions to guide the analysis is an iterative process. The policy questions help to focus the analysis and, at the same time, the analysis makes it possible to clarify and sharpen the policy issues. Each of the analytic themes will be defined below, along with examples of the kinds of issues under each theme and examples of the kinds of data that can contribute to the analysis.

The data from the status section provide the factual information that serves as the foundation for the analysis. As the data are collected, it is common for some general issues and concerns to emerge. Examples of these have already been shown in Section 6.4 of this chapter. The issues section of the assessment provides the opportunity to organize the concerns and issues according to the five analytic themes.

- **External Efficiency.** *External efficiency* refers to the relevance of an education or training program to subsequent activities of its participants. Thus, it is concerned with the personal and social utility of education. For example, preprimary education is externally efficient to the extent that it adequately prepares children for primary school, and secondary education is externally efficient if its graduates are able to enter subsequent educational activities or be gainfully employed. External efficiency has two dimensions: (a) how well education prepares the student to take the next step, either further study or employment, and (b) how well the content of instruction relates to the knowledge and skills required for the next step.

A wide range of issues can be discussed in the context of the external efficiency theme regardless of the subsector under study. The following are examples of the types of data or measures from the status section of the assessment that provide information related to external efficiency:

-- admission rates at the next level of education or training
-- curriculum content
-- employment rates
-- job search process and results
-- nature of job compared to expectations of employee
-- occupational distribution of graduates
-- private internal rate of return
-- labor market information
-- parental or community satisfaction with the education program
-- examination results
-- income distribution of graduates
-- additional education of graduates and measures of quality of preparation

- -- further formal or on-the-job training of graduates
- -- employer attitudes about employee preparation

Reviewing these kinds of data from the subsector will provide information on the basic external efficiency concerns. These can then be described and discussed in the issues section of the assessment chapter. The following two paragraphs are examples which describe how the issues concerning external efficiency were organized in the higher education chapter from the Haiti sector assessment and the secondary education chapter from the Botswana sector assessment.

> The analysis of external efficiency is concerned with questions of relevance, that is, what is the usefulness of the training received in Haitian institutions of higher learning? Two basic linkages are considered in this analysis: (a) the fit between one level of training and the next superior level, and (b) the correspondence between training, career opportunities, and job performance. They are discussed to the extent that data permit. (Haiti sector assessment, p. 8-54)

> External efficiency is examined along two dimensions. First, to what extent are the secondary schools producing sufficient numbers of graduates to meet the manpower demands of the country? To what extent are they providing students with adequate preparation for further study or training? Second, to what degree is training appropriate to the education and skill demands of employment? (Botswana sector assessment, p. 5-39)

Once the issues have been defined each can be discussed in some detail. The following, taken from the secondary education chapter of the Botswana sector assessment, is an example of part of a detailed discussion of an external efficiency issue:

> These analyses support the observations that graduates with Junior Certificates [JCs] need additional skill training if they are to compete effectively in the labor market. In that respect, expanding access from seven to nine years of basic education may defer for two years the problem of unemployed primary leavers. Present predictions suggest the economy will be unable to absorb the numbers of JC graduates being produced, resulting in substantial unemployment of junior secondary completers without additional training. At the same time, there may be as many as 20,000 jobs requiring higher levels of skill training which will go to skilled expatriates or to Batswana who lack the necessary training, simply because there are not enough skilled Batswana to fill the positions. The former would be politically undesirable; the latter would undermine proper management of the economy. Some express concern that the planned expansion of junior secondary education may diminish resources for higher levels of education and training where need is particularly acute. (Botswana sector assessment, pp. 5-45 & 5-46)

● **Internal Efficiency**. Measures of *internal efficiency* reflect how effectively a part of the educational system uses available resources to achieve certain educational outcomes. Internal efficiency may be considered to have two dimensions: (a) the relationship of what enters and what exits various parts of the subsector, and (b) the relationship of quality to costs between the entry and exit points. Thus, a key component of internal efficiency is the relationship between costs and benefits. That is, what is the relationship between the cost of a particular input and the learning gains that can be attributed to it. The following are examples of data that provide information on internal efficiency issues:

-- student/teacher ratios
-- dropout, repetition, and graduation rates

- instructional methods
- classroom/teacher ratios
- facilities utilization
- materials availability and utilization
- examination results
- teacher qualifications and effectiveness
- costs per student (unit costs)
- costs per graduate (cycle costs)
- student/teacher interaction levels

A careful study of these kinds of data along with the informal information the assessor has found will provide the basis for analyses of the internal efficiency theme. As shown by the examples of measures listed immediately above, internal efficiency issues are diverse and often numerous in any subsector.

The following paragraphs are examples taken from discussions of internal efficiency issues. It should be remembered that in each case these are selected portions of the arguments presented, and readers are encouraged to read the entire discussions in the referenced materials. The first example is from the secondary education chapter of the Botswana sector assessment and the second from the primary chapter of the Haiti sector assessment.

> Quality of Education. The emphasis on expanding educational access has some trade-offs with educational quality. The development of the CJSSs has created a two-tiered system with respect to quality with CJSSs having fewer trained teachers, enrolling less academically prepared students, and reporting lower JC scores than Government and Aided Schools. Further, for all school types (Government, Aided, and Unaided), the increased Form I intake in 1984 will mean that more students with lesser proficiency will enroll at the same time that teachers, faced with heavier workloads, may have less time for remedial work. The pressure on quality is further complicated by the automatic

> promotion policy from Form to Form, and the difficulty of equating formal outcome measures (PSLE, JC, Cambridge exam) across years. The challenge will be to preserve an appropriate level of quality at the secondary level to ensure that the more able students receive adequate preparation for subsequent study or training while the needs of the growing number of students with lesser preparation or ability are also addressed. (Botswana sector assessment, pp. 5-57 & 5-58)
>
> The primary school examination system comprises an internal efficiency issue. Currently there is no national examination. One is planned for the end of the third cycle of primary school, but students who are not able to finish all 10 years will not have a nationally recognized certificate to represent their achievement. More important, there will be few comparable measures of performance in primary school that could guide planners and administrators as they make decisions about allocating funds. (Haiti sector assessment, pp. 5-83 & 5-84)

Internal efficiency issues are often more difficult to isolate in the nonformal education subsector than in others due to lack of data on both the costs of inputs and on outputs. The following paragraph from the Haiti sector assessment shows how internal efficiency issues were categorized for nonformal education:

> Questions to guide judgments about the level of internal efficiency include: Which methods work best? What are the characteristics of successful facilitators and what can be done to increase their effectiveness? What types of materials are most effective? Is nonformal education optimally coordinated with other educational systems? These questions will be discussed under four headings: methods, facilitators, materials,

and linkages with the formal system. (Haiti sector assessment, p. 11-46)

- **Access and Equity.** *Access* to education is concerned with the availability of sufficient places for those who qualify to participate in an educational program. For example, access to primary education is much more limited in Somalia than in Botswana. In Botswana 83 percent of school-age children are in primary school whereas data suggest that only 40 percent of the population in Somalia is served by primary schools. *Equity* concerns the extent to which available educational opportunities are accessible regardless of characteristics that cannot be easily altered such as location, gender, language spoken, or ethnic group membership.

Information on access and equity issues emerges when data are considered in terms of gender, language spoken, ethnic group, and urban or rural location. The following are examples of kinds of measures that can be considered along these dimensions:

-- criteria for admission or selection to enter subsector or specific subsector programs
-- male/female ratios
-- urban/rural ratios
-- regional dispersions
-- ethnic/racial differences
-- enrollment rates of age cohorts by grades or levels
-- student/teacher ratios
-- student/class ratios
-- per student expenditures
-- dropout, repetition, and graduation rates
-- enrollment distributions
-- examination participation and successes
-- teacher/staffing numbers

The following example from the Yemen Arab Republic sector assessment addresses both access and equity in primary education:

> Although regionalization of educational opportunity is not as well advanced in preparatory and secondary education as for the primary level, this situation exists because of demographic constraints rather than from a lack of government commitment. As the population of primary school graduates increases, it will be possible to extend opportunities for preparatory and secondary education into even more areas.
>
> Female participation at the preparatory and secondary level is, of course, restrained by the success of primary education in attracting and retaining female students. Once in the higher levels, female students continue at rates not much below those for males. Increased opportunity for female students at higher levels is mentioned frequently as a positive factor in the decisions girls and their parents make to enter or remain in primary education. Thus, it would be possible to justify initial low female enrollments in preparatory or secondary classes or classes for females because of the positive long-term benefits. (Yemen Arab Republic sector assessment, pp. 5-34 & 5-35)

In the vocational and technical education chapter of the Botswana sector assessment three major issue areas were identified and discussed. They were summarized in the following way:

> Issues regarding access and equity are: (a) the concentration of training predominantly in one geographic area, (b) the limited opportunities for females in certain types of training programs, and (c) the limited access to vocational/ technical programs possibly resulting from too rigorous entrance requirements. (Botswana sector assessment, p. 8-77)

- **Administration and Supervision.** Within a subsector, *administration and supervision* is concerned with the management of that subsector and care for quality control of the activities. Much of the information that contributes to identification of issues under this analytic theme comes from the chapter on history, structure, and management capacity of the sector. The difference, however, is that emphasis within a chapter should be on the subsector under consideration, and not on the entire sector. The following are examples of the types of information that contribute to an understanding of administration and supervision issues:

- managerial and analytical capacity of subsector adminstration
- specifications and distribution of authority and responsibility
- availability of support resources for monitoring and guidance functions
- flow charts of system enrollments
- organization charts (location of subsector within ministry and detailed administrative structure of subsector and major institutions or programs)
- historical data relevant to present structure
- headteacher or school principal qualifications
- frequency and nature of teacher reviews
- appointment, salary, and promotion policies
- frequency and nature of supervisory visits by system personnel
- infrastructure limitations on management communications

The following two examples illustrate a summary of issues related to administration and supervision. The first is from the vocational and technical education chapter of the Yemen Arab Republic sector assessment and the second from the chapter on Koranic education in the Somalia sector assessment.

> The inspectorate in technical education is weak; even though the whole subsector consists of less than 15 institutions located in urban areas, inspectors are able to make visits only once or twice a year.

Connections between the schools and the MOE are inadequate, increasing the school directors' feelings of isolation. Relations at the governorate level are better in that technical education directors can visit the governorate office very easily, although the ability for a governorate office to be of assistance is limited. Technical education is considered a national MOE program responsibility, (of the MOE and the other ministries offering vocational technical training) so all major direction and decisions must come from [the headquarters at] Sana'a. Within schools there appears to be adequate supervision of teachers and good administrator-teacher rapport.

Research capability in vocational and technical education in the YAR is weak. MOE personnel involved in these programs do not have time to conduct the badly-needed studies of needs and performance. There is not, as yet, a specialist in vocational and technical education at the Educational Research Development Center, Sana'a. (Yemen Arab Republic sector assessment, pp. 6-45 & 6-46)

Koranic schools are unique in that no central body exists to monitor and support Koranic education. It appears that the lack of administration and supervision does not hinder the effectiveness of the schools in teaching a common value system. Some central support may be useful, however, to enhance the latent functions of the Koranic schools. (Somalia sector assessment, p. 5-14)

- **Costs and Financing**. As noted earlier in this chapter it is important to distinguish between costs and financing. *Costs* refer to the amount of funds required to accomplish a given task and *financing* refers to the sources of these funds. Thus, cost issues are those that consider the amounts and ways funds are used and financing issues relate to the source of funds to support subsector activities. The following are examples of measures that provide information on costs and financing:

Costs

- --student support by type of program and sources (including food, housing, and other subsidies)
- --instructional support by types and sources (including costs for teachers, materials and texts, equipment maintenance and repairs, examinations, and other items)
- --administrative support by types and sources
- --costs per student or graduate by program
- --capital costs

Financing

- --government subsidies by levels of government, program type, region, and location
- --external assistance agency subsidies by program type, region, and location
- --other institutional revenues by type of program and kind of revenue producing activity
- --student fees by type and total amount collected
- --other contributions (family, community, or school)

Discussion of costs and financing issues may be far ranging, depending on the structure and activities of the subsector under consideration. Three examples are presented below, each from a diverse subsector. The first addresses the relationships between unit and cycle costs in secondary schools in Indonesia, the second is the introduction to the discussion of costs and financing issues related to nonformal education in Botswana, and the last refers to secondary education in Haiti.

> 4. What is more interesting from an Indonesian policy maker's perspective are the variations in instructional years per graduate and their impact on cycle costs. Though the unit costs are higher for the private SMA [General Senior Secondary School], scenario 1, than the

public STM [Senior Technical Secondary School] unit costs, the cost per graduate or "cycle cost" is higher for STMs. This reflects the relative inefficiency of this program's use of existing resources in producing a graduate. Comparing attrition cost indices, we see that of all the levels of education, public senior secondary STMs appear to be using existing resources least efficiently. (see attrition cost index of 1.53) (Indonesia sector assessment, p. 6-85)

Issues regarding the costs and financing of nonformal education arise in three general areas: measuring unit costs, providing less expensive fieldworker training, and identifying cost-effective methods of NFE [Nonformal Education] services. (Botswana sector assessment, p. 9-78)

Closely related to the issue of organization and administration is the one of costs and financing of planned improvements in secondary education. The weak role played by the public sector in secondary education is tied closely to the comparatively low level of Government expenditures for education and the prospects that this situation is unlikely to change in the future.

The means for financing the development of secondary education are, practically speaking, unavailable at this time. Government does not have the funds, within current budgetary allocations, to offer much assistance to private schools. Little in the way of external assistance from outside donors can be expected in view of the low priorities usually accorded to secondary education in development assistance strategies. (Haiti sector assessment, pp. 6-34 & 6-35)

The fifth section of the analysis gives overall conclusions. A *conclusion* is a reasoned judgment or inference about major issues within the subsector. The conclusions section should summarize the major findings from the analysis. The conclusions should be specific to the subsector and must be supported by the information contained in the earlier parts of the analysis.

Given below are two examples of conclusions related to teacher training. The first is one of the conclusions from the sector assessment conducted in Somalia. The next example is the second conclusion concerning teacher training from the Botswana sector assessment.

> Conclusion 1. Teacher education facilities do not need to be expanded. Instead, the emphasis should be on quality. The provision of high quality training for both pre-service and inservice teachers is a principal means to enhance educational quality in schools. Earlier chapters describing the specific education and training subsectors identified enhanced educational quality as the primary need of the education system. The discussion in this section has emphasized the role of the teacher in improving educational quality. Success of that strategy depends, however, on the quality of teacher training and the effectiveness of policies to ensure that all student teachers receive such training. (Somalia sector assessment, p. 9-28)
>
> Conclusion 2. Current pre-service and in-service teacher education programs should be reviewed with a view to strengthening the more effective ones to support the proposed expansion of basic education. (Botswana sector assessment, p. 6-39)

The final part of the analysis contains recommendations or policy options for the subsector. Recommendations and policy options are different, although related. A *recommendation* is a statement that provides advice or counsel for action whereas a *policy option* provides decision choices. This section should focus on major concerns in the subsector and be based on the earlier analysis. To the extent possible, it is important to list recommendations in priority order. Two examples follow. The first is an excerpt from the recommendations section of the vocational and technical education chapter from the Yemen Arab Republic.

> 6.3.1 Students, Curriculum, and Cost Recommendations
>
> On-the-job training is an option already in place at every level of private sector enterprise, from the informal small-scale industries to the nation's largest factories. What is lacking within these programs is a prerequisite general education program that promotes an acceptable level of literacy and numeracy. The worlds of work and learning need not be separate, and in the YAR progress can be made quickly in linking them. For example, the workshops of the VTC's [Vocational Training Centers] and TSS's [Technical Secondary Schools] are already available to private citizens for auto repair [and] furniture repair. Such arrangements could be institutionalized and made a regular part of the school's operation. Earnings from such activities could reduce VTC and TSS recurrent costs as well as serve the purpose of introducing students to the experiences and responsibilities of work. Students could also be encouraged to use their ample vacation periods for organized apprenticeships in fields related to their studies. An informal precedent already exists in that many students attend double-shift secondary schools while employed in private-sector jobs in their non-school hours. (Yemen Arab Republic sector assessment, p. 6-48)

The second example is one of the recommendations from the primary education chapter of the Haiti sector assessment.

> Recommendation 3 - Management. Improve the management and planning capabilities of those in decisionmaking positions in public and private educational institutions.
>
> This objective is best attained through a training program that allows for addressing an individual's specific needs. It calls for a pragmatic approach to attaining the specific skills required, rather than long-term training in more general areas such as theories of management. (Haiti sector assessment, p. 5-92)

This chapter has described the analytical context and content required for each chapter of an assessment. The policy context has been discussed. Subsectors have been defined and data needs addressed in some detail. Five analytic themes were defined and illustrations given to show how these thematic areas can assist in analysis.

7. WRITING

The formal record of an assessment is the written report that documents and summarizes its results. This document provides baseline data that will be referred to frequently and that can serve as an effective planning tool. It is important that the report be well organized, clearly presented, and carefully written. This part of the manual addresses the writing style and the format suggested for the assessment report.

7.1 THE RESEARCH TASK

Each chapter should be organized and presented so the reader can follow the logical progression of ideas from the beginning to the end. Every assertion should be supported by appropriate evidence and be accompanied by a suitable explanation and justification. Recommendations should logically follow from the analysis of constraints, issues, and conclusions which precede them.

The need for a clearly presented relationship between evidence and the resulting conclusions and recommendations is of critical importance if the recommendations are to be understood, accepted, and implemented. Unfortunately, many professionals have favorite themes or solutions that influence their recommendations in a wide range of situations regardless of the data. It is essential that the research task be thorough enough to provide enough data of sufficient breadth and quality to identify problems and alternative solutions. This will permit accurate conclusions to be reached so that the recommendations are appropriate, valid, and feasible for the existing situation. Suggested ways to ensure the required degree of precision are given below.

The first major activity for implementing an assessment is data collection. It is essential that all team members understand the purpose and objectives of the assessment so that the right kinds of data are collected for analysis.

Emphasis should be on the gathering together of existing data, as the limited time and resources for this type of assessment do not allow for the design and implementation of surveys to obtain new information. Much existing information needed for sector assessments is available in published sources and collections of statistics that are available through government offices. Some data are not in published form and have to be collected from relevant institutions and individuals. It is essential for the researcher to be familiar with all published sources of data at the beginning of the assessment to conserve valuable professional time. It is the knowledge about what data exist in relation to the data needs for the assessment as discussed in Chapter 6 of this manual, and an understanding of relevant policy questions, that make it possible to ask appropriate questions of participating institutions and individuals. Knowledge about the available data bases prior to interviewing individuals knowledgeable about the education sector enables inquiry about gaps in the data bases or clarification of discrepancies in the data.

A key responsibility of the researcher is to interpret the data that have been gathered. Interpretation is more than merely reporting what exists. It consists of understanding individual data units, how those units relate to each other, and their implications with respect to the current status in each subsector.

7.2 WRITING STYLE

Use *plain, clear, and simple sentences* that are easy to understand. The vocabulary, construction, and explanations of technical concepts should be intelligible to an educated layman. Many readers will not be professionally trained in education, statistics, or economics. Avoid long sentences, technical jargon, and vague words. Always select a simple sentence over a more complex one, and active over passive voice when possible. If a long sentence is used, follow it with a short one. Table 7.1 presents examples of two very different writing styles

Table 7.1

Sample Writing Styles

Paragraph A

Two factors should be noted, however, about the instances in which this strategy seems to be having success: (1) The PVOs [Private Voluntary Organizations] generally provide a higher level of input than the government can presently afford, even in its existing schools. (2) In a number of cases, the strategy works because people with a religious motivation are ready to labor for the common good at very low wage rates (mission school teachers commonly earn 40-70% of the already low salaries of public school teachers) and are not concerned that the institution turn a profit. It is not inconceivable that a similar degree of commitment could one day be generated by the government for the development struggle, nation-building, cultural revitalization etc., but for the present these conditions do not seem to obtain.

Paragraph B

Two factors should be noted, however, about the cases where this strategy seems to have been successful. The PVOs generally provide more support than Government can presently afford, even for its existing schools; and in some cases the strategy works because people with a religious motivation are willing to work at very low wages. Mission school teachers commonly earn 40-70 percent of the already low salaries of public school teachers, for example, and are generally not concerned that the institution makes a profit. Overall, the private voluntary schools perform a vital function with relative efficiency.

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used to convey the same information. These are examples from a sector assessment document. Paragraph A uses complex language and long sentences. Paragraph B, on the other hand, uses clear language and simple sentences. Note how much easier it is to understand what the writer is saying in the second paragraph. Professionals often make the mistake of thinking that more complex writing is an indication of greater knowledge or intelligence. This is not the case. It takes great skill to communicate complex ideas in writing so that a reader can understand them easily and quickly. And, if writers want their ideas taken seriously and their recommendations implemented, they must communicate them clearly to the busy professionals who are making decisions in the education sector.

Technical terminology can efficiently convey abstract concepts to highly trained groups of professionals, but should be avoided in a sector assessment. Where special technical terms must be used, they should be defined carefully when first introduced. An example definition follows:

> *Internal efficiency* issues relate to the degree to which the education system is making the best use of resources and operating in a cost effective manner. Internal efficiency topics considered in this assessment include student flow within schools, class size, student age, teacher effectiveness, quality of instruction, availability of instructional materials, language of instruction, examinations, curriculum, and student movement between schools.

The general tone of the writing should be encouraging and positive. It should reflect an analytical rather than a negative attitude. Shortcomings and weaknesses should be referred to, but the emphasis should be on identifying solutions rather than allocating responsibility for failures.

7.3 FORMAT

It is helpful to have chapters within a single assessment follow a similar format. If this is done consistently, readers become familiar with the information layout of the chapters. This makes it easier to locate the same kinds of information in different chapters. Experience has demonstrated that it is helpful to use a simple decimal numbering system for each chapter, as has been done with this manual. This system makes it possible to organize a long and complex report in a way that is easy for the reader to follow. The first number of each section is the chapter number and conveys information about the content area. Numbering pages within chapters (eg., 1-1, 1-2, . . . 1-56 for the first chapter) also makes it easier for each chapter to be prepared and reproduced separately. This is an important factor when a large team is working under time pressure.

The variety of areas researched during an assessment, and the different contexts of subsectors, make it impossible to have an inflexible chapter format. This section addresses variations on a basic format that have been found useful in a variety of situations. Readers may wish to refer to Section 6.1 to refresh their memories on the range of content areas in an assessment.

- **Synthesis.** As noted in Chapter 6, the synthesis is an overview of the status, needs, constraints, conclusions, and recommendations for the entire education sector and its larger context. The following outline could be followed, with the same numbering of sections to make it easier to compare assessments from different countries.

1. Synthesis
   1.1 Context
   1.2 Policy Concerns
   1.3 Synthesis of Recommendations
   1.4 Summary of Subsector Recommendations

- **Economic and Fiscal Analysis.** This chapter of the assessment has four major topics as discussed in Section 6 of this manual. These are: (1) an analysis of macro-economic conditions and trends; (2) governmental fiscal capacity; (3) manpower supply and demand; and (4) unit costs, cycle costs, and returns to education. Within this overall structure, there will be variations reflecting conditions specific to each country. Table 7.2, on the next two pages, gives examples of outlines from the economic and fiscal analyses chapters of assessments conducted in the Yemen Arab Republic and Haiti.

Note that even though both outlines address the same major topics, there are large differences between them in the kinds and level of detail that are included. These differences can largely be attributed to the inclusion of a discussion of the historical context and a focus on the private sector in the Haiti sector assessment. The individuals responsible for the analysis in Haiti observed that the country's history had resulted in an unusual situation which needed to be described for the reader to fully understand the current economic conditions. Similarly, the major and unusual role of the private sector in the Haitian education system required that the economic and fiscal analysis include the very active private sector in addition to the public sector.

A second major difference between the two outlines is in the final section. The Haiti assessment closes with a series of conclusions and recommendations. The assessment from the Yemen Arab Republic takes a significantly different approach. It ends with a list of policy options, describing each of these and what outcomes might be anticipated if each one were to be adopted. This latter approach, combined with a comprehensive synthesis chapter, is likely to be most useful to policymakers and planners in the education sector.

Table 7.2

Outlines of Fiscal Analysis Chapters from Two Sector Assessments

HAITI

- 2.0 Economic and Fiscal Analysis
  - 2.1 Introduction
  - 2.2 Historical context
    - 2.2.1 Extended Isolation
    - 2.2.2 Political Unrest
    - 2.2.3 Underdeveloped Administrative Capacity
    - 2.2.4 Limited Public Investment
    - 2.2.5 The Language Problem
    - 2.2.6 Influence of U.S. Involvement
  - 2.3 Demographic Background
  - 2.4 Main Economic Indicators
    - 2.4.1 Production
    - 2.4.2 Public Finances
      - 2.4.2.1 Current Operations
      - 2.4.2.2 The Education Budget
      - 2.4.2.3 Development Operations
    - 2.4.3 External Assistance
    - 2.4.4 Balance of Payments and External Debt
  - 2.5 Government Development
    - 2.5.1 Major Issues
    - 2.5.2 Strategies
  - 2.6 Government Fiscal Capacity and Private Sector Funding Potential
    - 2.6.1 Economic Growth Projections
    - 2.6.2 Projection of Government Revenues
  - 2.7 Manpower Analysis
    - 2.7.1 Scope and Limitations
    - 2.7.2 The Haitian Labor Market
    - 2.7.3 Projections of Manpower Demand
      - 2.7.3.1 Projections Made by the Ministry of Planning
      - 2.7.3.2 Alternative Projections
    - 2.7.4 Projections of Manpower Supply
      - 2.7.4.1 General Education
      - 2.7.4.2 Teacher Training
      - 2.7.4.3 Vocational and Technical Training
      - 2.7.4.4 Manpower Balance
    - 2.7.5 Conclusions of the Manpower Analysis
  - 2.8 Costs of Haitian Education
    - 2.8.1 Introduction
    - 2.8.2 Unit Cost Analysis
      - 2.8.2.1 Primary Education
      - 2.8.2.2 General Secondary Education
      - 2.8.2.3 Vocational-Technical Education
      - 2.8.2.4 Teacher Training
      - 2.8.2.5 Higher Education
    - 2.8.3 Cycle Cost Analysis
      - 2.8.3.1 Student Flows
      - 2.8.3.2 Overall Student Flow Model for the Haitian Educational System
      - 2.8.3.3 Unit Cost Summary
      - 2.8.3.4 Cycle Cost Comparison
    - 2.8.4 Educational Financing
      - 2.8.4.1 Principal Sources of Financial Support for Education
      - 2.8.4.2 Cost Incidence
    - 2.8.5 Summary Issues (Cost Analysis)
  - 2.9 Returns to Haitian Education
    - 2.9.1 The Benefits of Education
      - 2.9.1.1 Private and Social Benefits
      - 2.9.1.2 Investment and Consumption Benefits
      - 2.9.1.3 Measuring the Benefits of Haitian Education
      - 2.9.1.4 Average Income Levels for Haitian Graduates
    - 2.9.2 Rate of Return Analysis
      - 2.9.2.1 Procedures for Rate of Return Analysis
      - 2.9.2.2 Indicative Rates of Return to Haitian Education
    - 2.9.3 Summary Issues
  - 2.10 The Economic Viability of Private Education
  - 2.11 Conclusions
    - 2.11.1 Conclusions
    - 2.11.2 Recommendations
      - 2.11.2.1 Educational Recommendations
      - 2.11.2.2 Administrative Recommendations

Table 7.2 (Continued)

YEMEN ARAB REPUBLIC

2.0 Economic and Financial Analysis of Yemen Human Resources Development

2.1 Introduction

2.2 The Yemen Economy
    2.2.1 Major Issues
    2.2.2 Measures of Yemeni Economic Performance
    2.2.3 Current National Budget Receipts and Expenditures
    2.2.4 Development Expenditures

2.3 The Analysis of YAR Fiscal Capacity
    2.3.1 Projections of Economic Growth
    2.3.2 Projections of Education and Human Resources Expenditures
    2.3.3 Fiscal Capacity and EHR Expenditures

2.4 Manpower Demand and Supply
    2.4.1 Manpower Demand and Employment in Yemen
    2.4.2 Manpower Demand and Macro-Economic Growth
    2.4.3 Teacher Demand and Supply in the YAR

2.5 Financing, Unit/Cycle Costs, and Returns to Education
    2.5.1 Educational Financing
        2.5.1.1 Primary Education
        2.5.1.2 Preparatory and General Secondary Education
        2.5.1.3 Vocational/Technical Education
        2.5.1.4 Teacher Training
        2.5.1.5 Higher Education
        2.5.1.6 Nonformal Education
        2.5.1.7 Summary Issues
    2.5.2 Unit Cost, Cycle Costs, and Rate of Return Analysis
        2.5.2.1 Unit and Cycle Costs
        2.5.2.2 Returns to Education
        2.5.2.3 Summary Issues

2.6 Major Options
    2.6.1 Introduction
    2.6.2 Options for Policy, Practice, and Further Study

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- **Management of Education.** The efficient allocation of resources for different planned educational outcomes is a critical responsibility of officials in the education sector. This responsibility requires effective management of resources for education. A suggested format for describing and analyzing management of the education sector in Indonesia is contained in Table 7.3. The approach consists of a status section, followed by a carefully organized analysis, and ending with conclusions and recommendations.

In the assessments conducted in Botswana, Haiti, Indonesia, Liberia, Somalia, and the Yemen Arab Republic, the individual subsector chapters each addressed the history and structure of the education sector with particular emphasis on the subsector being described in that chapter. This resulted in some duplication of information among chapters in a single assessment. It would be more appropriate and efficient for this description to constitute the first part of the chapter on management of the education sector. A section on the history of the education sector should be brief and emphasize how policy changes have affected the education sector. A section on the structure of the sector would include organization charts of the sector and would describe what kinds of decisions are made at which bureaucratic levels. This would serve as an introduction to the analysis of management capacity and as a background for all subsector chapters.

- **Formal Education.** Chapters on primary education, secondary education, teacher education, and higher education can usually follow the same general format. If preprimary education is covered separately from primary education, it also can follow a similar format.

Table 7.3

Outline of Chapter on Management of Education from Indonesia Sector Assessment

3.0 Management of Education

3.1 Introduction

3.2 Status of Education Management in the Ministry of Education and Culture
3.2.1 Mission, Goals, Objectives
3.2.2 Education and Management Strategy
3.2.2.1 Education Strategy
3.2.2.2 Management Strategy
3.2.3 Structure
3.2.4 Systems
3.2.4.1 Education System
3.2.4.2 Administrative Management System
3.2.4.3 Development Planning, Control and Evaluation System
3.2.4.4 Budgeting System
3.2.5 Staffing Pattern and Staff Development
3.2.6 Incentive/Compensation
3.2.6.1 Salary Structure
3.2.6.2 Inservice Education and Training
3.2.7 Institutional Development

3.3 Analysis of Education Management in the Ministry of Education and Culture
3.3.1 Mission, Goals, Objectives
3.3.1.1 Needs
3.3.1.2 Constraints
3.3.1.3 Issues
3.3.2 Strategy
3.3.2.1 Needs
3.3.2.2 Constraints
3.3.2.3 Issues
3.3.3 Structure
3.3.3.1 Needs
3.3.3.2 Constraints
3.3.3.3 Issues
3.3.4 Systems
3.3.4.1 Needs
3.3.4.2 Constraints
3.3.4.3 Issues
3.3.5 Staffing and Staff Development
3.3.5.1 Needs
3.3.5.2 Constraints
3.3.5.3 Issues
3.3.6 Incentives
3.3.6.1 Needs
3.3.6.2 Constraints
3.3.6.3 Issues
3.3.7 Institutional Development
3.3.7.1 Needs
3.3.7.2 Constraints
3.3.7.3 Issues

3.4 Conclusions

3.5 Recommendations
3.5.1 Improvement in the Effectiveness of the Management System
3.5.2 Support Improvements in Education Quality
3.5.3 Institutional Development

Appendix A. Units of the Central Government

Annex A. List of Interviewees
Annex B. References
Annex C. Terms and Acronyms

Tables and Figures

Tables

3.1 Repelita IV Targets
3.2 Infrastructure Targets
3.3 Repelita Output Targets
3.4 Comparison of Repelita III Targets and Achievement
3.5 Comparison of School Construction Targets and Achievement During Repelita III
3.6 Comparison of Repelita III Output Targets and Achievement

Figures

3.1 Organization of the MOEC
3.2 Organization of the MOEC Through the Regional Level
3.3 Indonesian Education Structure
3.4 Ladder Structure of School Types and the Labor Force Pyramid
3.5 Comparison of Routine Budget (Rutin Depdikbud) and Development Budget (Pengembangan Depdikbud)
3.6 Growth in Unexpended Development Funds (SIAP) 1979-80 to 1983/84

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As discussed in Section 6, each chapter on formal education has six major topics of discussion: status, needs, plans, analysis, conclusions, and recommendations. How each of these is discussed within the assessment can vary according to different situations among countries. Table 7.4 gives examples of outlines from primary education chapters of sector assessments for Botswana, Haiti, and the Yemen Arab Republic. Although these outlines are similar in many ways, there are some significant differences.

First, despite the structural similarities of the chapters, there are differences that reflect circumstances unique to a particular country. The assessment from the Yemen Arab Republic, for example, paid particular attention to the Koranic schools which have a significant role in that country. Second, the same subject can receive very different treatment from assessment to assessment. For example, Table 7.4 shows that both the Botswana and Haiti assessments present a discussion of the structure of primary education. As shown by the actual assessment documents, referenced in this manual, the complexity of the Haitian context required much greater descriptive detail and a different kind of analysis than Botswana.

Third, the examples indicate that it is easy to adapt an entire discussion area: each outline in Table 7.4 has a unique organization for the final section even though it addresses the same area. To the extent possible, however, it is useful to have a consistent format for all chapters within an assessment even though there may be significant organizational differences between assessments.

- **Vocational and Technical Education and Nonformal Education.** These two subsectors often present organizational difficulties in an assessment. This is because they frequently have a more diverse composition than subsectors in formal education.

Table 7.4

Outlines of Primary Education Chapters from Three Sector Assessments

BOTSWANA	HAITI	YEMEN ARAB REPUBLIC
4.0 Primary Education	5.0 Primary Education	4.0 Primary Education
4.1 Status	5.1 Status	4.1 Status
4.1.1 Historical Setting	5.1.1 Historial Setting	4.1.1 Historical Setting
4.1.2 National Goals and Strategis	5.1.2 National Goals and Strategies	4.1.2 National Goals and Strategies
4.1.3 Structure	5.1.3 Structure	4.1.3 Organizational Structure
4.1.4 Program	5.1.4 Program	4.1.4 Programmatic Concerns
4.1.4.1 Students	5.1.4.1 Administration	4.1.4.1 Student Enrollments and Characteristics
4.1.4.2 Teachers	5.1.4.2 Students	4.1.4.2 Teachers
4.1.4.3 Curriculum	5.1.4.3 Teachers	4.1.4.3 Curriculum
4.1.4.4 Examinations	5.1.4.4 Curriculum	4.1.4.4 Evaluation
4.1.4.5 Facilities and Equipment	5.1.4.5 Examinations	4.1.4.5 Facilities and Equipment
4.1.4.6 Costs and Donor Support	5.1.4.6 Facilities and Equipment	4.1.4.6 Costs, Financing, and Donor Support
4.1.4.7 Quality of Instruction	5.1.4.7 Costs and Financing	4.1.4.7 The Scientific Institute and Koranic Schools
	5.1.4.8 Quality of Instruction	
4.2 Analysis	5.2 Analysis	4.2 Analysis
4.2.1 Needs	5.2.1 Needs	4.2.1 Needs
4.2.2 Plans	5.2.2 Plans	4.2.2 Plans
4.2.3 Constraints	5.2.3 Constraints	4.2.3 Constraints
4.2.4 Issues	5.2.4 Issues	4.2.4 Summary Issues
4.2.4.1 External Efficiency	5.2.4.1 External Efficiency	4.2.4.1 External Efficiency
4.2.4.2 Internal Efficiency	5.2.4.2 Internal Efficiency	4.2.4.2 Internal Efficiency
4.2.4.3 Access and Equity	5.2.4.3 Access and Equity	4.2.4.3 Access and Equity
4.2.4.4 Administration and Supervision	5.2.4.4 Administration and Supervision	4.2.4.4 Administration and Supervision
4.2.4.5 Costs and Financing	5.2.4.5 Costs and Financing	4.2.4.5 Costs and Financing
4.2.5 Conclusions	5.2.5 Conclusions	
4.3 Recommendations	5.3 Recommendations	4.3 Major Options
4.3.1 First Priority - Administration and Supervision	5.3.1 Public Sector	4.3.1 Programmatic Concerns
4.3.2 Second Priority - Internal Efficiency	5.3.2 Private Sector	4.3.2 Summary Issues
4.3.3 Third Priority - Access and Equity	5.3.3 System-Wide	4.3.3 Recommendations for Further Analysis

Vocational and technical education may be tied closely to formal education, it may overlap with formal education somewhat, or the two may operate totally independently. Its structure will affect the chapter format to a certain degree. Table 7.5 gives examples of how information on vocational and technical education was presented in three separate sector assessments. The general format for each of the chapters is similar but each has unique features. There is an interesting variation for the status sections that describe the training programs. In both the Liberia and Yemen Arab Republic assessments this is organized according to the sponsorship of various training programs. In the Haiti sector assessment the program descriptions were organized according to their content areas.

Nonformal education programs are usually offered by a very diverse group of sponsors and cover a wide range of content areas. Consequently, it is often difficult to present the information in a way that reflects the diversity within the subsector while still treating it as a unified subsystem. In some cases, assessments have treated different components of the subsector in separate chapters. Readers are referred to the sector assessment that was conducted in Somalia for an example of this approach. In this case, separate chapters addressed health, agricultural, and adult basic education. Table 7.6 shows an outline of the chapter on nonformal education from the sector assessment in Botswana. The status section of this chapter presented the major programs separately but the entire subsector was treated as a system in the analysis section.

- **Special Studies.** Each country and educational system has its own unique features. It is sometimes important to accommodate these features by special studies in the sector assessment. The sector assessment in Haiti, for example, included two special studies: on school feeding and on textbooks. The outlines for these studies are in Table 7.7.

Table 7.5

Outlines of Vocational and Technical Education Chapters from Three Sector Assessments

HAITI

- 10.0 Vocational and Technical Education
  - 10.1 Status
    - 10.1.1 Historical Setting
    - 10.1.2 National Goals and Strategies
    - 10.1.3 Structure
    - 10.1.4 Programs
      - 10.1.4.1 The Aggregate Picture
      - 10.1.4.2 Training for the Primary Sector: Agriculture, Forestry, Animal Husbandry, Mines
      - 10.1.4.3 Training for the Processing and Transformation Sector
      - 10.1.4.4 Training for the Services Sector: Commerce, Social Service, and Government
  - 10.2 Analysis
    - 10.2.1 Issues
      - 10.2.1.1 Internal Efficiency
      - 10.2.1.2 External Efficiency
      - 10.2.1.3 Access and Equity
      - 10.2.1.4 Administration and Supervision
      - 10.2.1.5 Costs and Financing
    - 10.2.2 Needs
    - 10.2.3 Constraints
    - 10.2.4 Plans
      - 10.2.4.1 Government Plans
      - 10.2.4.2 USAID Plans
      - 10.2.4.3 Private Sector Plans
    - 10.2.5 Conclusions
    - 10.2.6 Recommendations

LIBERIA

- 7.0 Vocational and Technical Education
  - 7.1 Status
    - 7.1.1 Condition of Employment
    - 7.1.2 Goals and Strategies
    - 7.1.3 Structure
    - 7.1.4 Programs
      - 7.1.4.1 Public School Institutions
      - 7.1.4.2 Public Out-of-School Institutions
      - 7.1.4.3 Proprietary Institutions
      - 7.1.4.4 Private Mission Schools
      - 7.1.4.5 Concession Schools
    - 7.1.5 Administration and Supervision
    - 7.1.6 External Efficiency
    - 7.1.7 Internal Efficiency
    - 7.1.8 Access and Equity
    - 7.1.9 Costs and Financing
  - 7.2 Needs
    - 7.2.1 External Efficiency
    - 7.2.2 Internal Efficiency
    - 7.2.3 Administration and Supervision
    - 7.2.4 Costs and Financing
  - 7.3 Plans
  - 7.4 Analysis
    - 7.4.1 Constraints
    - 7.4.2 Issues
      - 7.4.2.1 External Efficiency
      - 7.4.2.2 Internal Efficiency
      - 7.4.2.3 Administration and Supervision
      - 7.4.2.4 Costs and Financing
    - 7.4.3 Conclusions
  - 7.5 Recommendations
    - 7.5.1 First Priority - External Efficiency Recommendation 1.
    - 7.5.2 Second Priority - Internal Efficiency Recommendation 2.
    - 7.5.3 Third Priority - Costs and Financing Recommendation 3.

YEMEN ARAB REPUBLIC

- 6.0 Vocational and Technical Education
  - 6.1 Status
    - 6.1.1 Historical Setting
    - 6.1.2 National Goals and Strategies
    - 6.1.3 Organizational Structure
    - 6.1.4 Programmatic Concerns
      - 6.1.4.1 Vocational Training Centers
        - 6.1.4.1.1 Student Enrollments and Characteristics
        - 6.1.4.1.2 Teachers
        - 6.1.4.1.3 Curriculum
        - 6.1.4.1.4 Evaluation
        - 6.1.4.1.5 Facilities and Equipment
        - 6.1.4.1.6 Costs, Financing and Donor Support
      - 6.1.4.2 Technical Secondary Schools
        - 6.1.4.2.1 Student Enrollments and Characteristics
        - 6.1.4.2.2 Teachers
        - 6.1.4.2.3 Curriculum
        - 6.1.4.2.4 Evaluation
        - 6.1.4.2.5 Facilities and Equipment
        - 6.1.4.2.6 Cost, Financing and Donor Support
      - 6.1.4.3 Commercial Secondary Programs
        - 6.1.4.3.1 Student Enrollments and Characteristics
        - 6.1.4.3.2 Teachers
        - 6.1.4.3.3 Curriculum
        - 6.1.4.3.4 Evaluation
        - 6.1.4.3.5 Facilities and Equipment
        - 6.1.4.3.6 Costs, Financing and Donor Support
      - 6.1.4.4 Other Concerns
  - 6.2 Analysis
    - 6.2.1 Needs
    - 6.2.2 Plans
    - 6.2.3 Constraints
    - 6.2.4 Summary Issues
      - 6.2.4.1 External Efficiency
      - 6.2.4.2 Internal Efficiency
      - 6.2.4.3 Access and Equity
      - 6.2.4.4 Administration and Supervision
      - 6.2.4.5 Costs and Financing
  - 6.3 Major Options
    - 6.3.1 Students, Curriculum, and Cost Options
    - 6.3.2 Facilities Options

Table 7.6

Outline of Chapter on Nonformal Education from Botswana Sector Assessment

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9.0 Nonformal Education

- **9.1 Status**
  - 9.1.1 Historical Setting
  - 9.1.2 National Goals and Strategies
  - 9.1.3 Structure of the Subsector
  - 9.1.4 Programs
    - 9.1.4.1 Agricultural
    - 9.1.4.2 Health Education
    - 9.1.4.3 Government-Sponsored Education for Non-Agricultural Life Skills and Income Generation
  - 9.1.5 Summary

- **9.2 Analysis**
  - 9.2.1 Needs
  - 9.2.2 Plans
  - 9.2.3 Constraints
    - 9.2.3.1 Human Resources Constraints
    - 9.2.3.2 Financial Constraints
    - 9.2.3.3 Organizational Constraints
    - 9.2.3.4 Socio/Economic/Physical Environmental Constraints
  - 9.2.4 Issues
    - 9.2.4.1 External Efficiency
    - 9.2.4.2 Internal Efficiency
    - 9.2.4.3 Access and Equity
    - 9.2.4.4 Administration and Supervision
    - 9.2.4.5 Costs and Financing
  - 9.2.5 Conclusions

- **9.3 Recommendations**
  - 9.3.1 First Priority - External Efficiency
  - 9.3.2 Second Priority - Internal Efficiency
  - 9.3.3 Third Priority - Administration and Supervision
  - 9.3.4 Fourth Priority - Access and Equity
  - 9.3.5 Fifth Priority - Costs and Financing

Table 7.7

Outline of Special Studies from Haiti Sector Assessment

12.0 Primary School Textbooks

- 12.1 Introduction
  - 12.1.1 Textbooks in Developing Countries
  - 12.1.2 Books in Haiti
- 12.2 Primary School Textbooks: Policy Background
  - 12.2.1 Textbooks and the Issues of the Reform
  - 12.2.2 Book Ownership
- 12.3 Local Textbook Publishing
  - 12.3.1 Production Capabilities
  - 12.3.2 Production and Manufacturing Costs
- 12.4 Textbooks for Education Reform
  - 12.4.1 The Third Education Project
  - 12.4.2 Curriculum Development
  - 12.4.3 Materials Production
  - 12.4.4 Distribution and Utilization
  - 12.4.5 Materials Produced
- 12.5 Textbooks in Other Primary Schools
- 12.6 Textbook Quality
  - 12.6.1 Comments from Educators
  - 12.6.2 Comments from the Printer/Distributor
  - 12.6.3 Comments from the Sector Assessment Team
- 12.7 Needs
- 12.8 Recommendations

13.0 School Feeding Program

- 13.1 Purpose of the Study
- 13.2 Background
  - 13.2.1 Nutritional Status of Haitian Children
  - 13.2.2 Nutrition Interventions
  - 13.2.3 PFL 480 Title II Support
- 13.3 School Feeding Program: An Overview
  - 13.3.1 Administration
  - 13.3.2 Participating Schools
  - 13.3.3 Food Provided
- 13.4 Policy Issues and Choices
  - 13.4.1 Targeting
  - 13.4.2 Schools' Use of Food Commodities
  - 13.4.3 Assessment of Impact
  - 13.4.4 Program Improvement
- 13.5 A Nutrition/Health Education Component
  - 13.5.1 Rationale for an Educational Intervention
  - 13.5.2 The Interview
  - 13.5.3 Persons Interviewed
  - 13.5.4 Views Expressed
- 13.6 Conclusions
- 13.7 Recommendation

The assessments from Haiti and Indonesia contain chapters addressing external assistance to the sector. The format for such special studies will be determined by the nature of the study.

- **Background Documents.** The collection of resource documents that provide background material and data for the assessment have already been described elsewhere in this manual (e.g., Sections 4.5 and 6). Full citations for these documents should be included as part of the assessment report. Table 7.8 contains an example of some of the resource documents from the Somalia assessment. Note that complete identifying information is necessary so that the documents can be located for further study. In this example there are three items (by Adam, Ahmad, and Bellville) that would be very difficult to locate because there is so little identifying information.

- **Annexes.** Every sector assessment will have annexes. These may include information such as the names of individuals who served on review committees or coordinating groups, or individuals interviewed during the sector assessment. Table 7.9 contains pages from the Yemen Arab Republic and the Haiti sector assessments. Each is part of a list of individuals contacted by members of the assessment team. These examples illustrate that there are different ways for such information to be presented. The first of these emphasizes institutions, whereas the second emphasizes individuals.

A list of acronyms is often a very useful annex. Table 7.10 includes part of the acronym list from the Haiti sector assessment. This particular example was chosen because it includes both French and English acronyms with explanations in both languages.

Table 7.8

Example of List of Resource Documents

BIBLIOGRAPHY

Somali Education and Human Resources

Adam, Hussein M. An Overview of Somali Policies Towards Training and Manpower. Paper presented at the KAURP workshop. Arusha: November 5-8, 1979.

Adam, Hussein M., ed. Somalia and the World, Vol. II.

Adam, Hussein M., ed. Somalia: Revolutionary Transformation. Somali papers presented at the Third Frantz Fanon Conference. Mogadishu: June 1979.

Ahmad, Jusuf J. Analyzing the Options. UN Environment Programs. Nairobi: 1982.

Awaleh, A. I. and J. A., Johnston, eds. Population: Social and Economic Employment in Somalia. From the proceedings, First National Seminar on population. Mogadishu: Ministry of Education/UNESCO, 1981.

Belville, Claudia. Report of a Three-week Sociocultural Reconnaissance of the Refugee Population in the Godo Region, June 1982.

Box, T. W. Central Rangelands Development Project, Somalia, Consultant Report, November 1982.

Berry, L., T. Tauras and R. Ford. Eastern Africa Country Profiles: Somalia. Worcester: Clark University, November 1980.

Birks, J. S. and C. A. Sinclair. International Migration and Development in the Arab Region. Geneva: International Labor Office, 1980.

Callison, C. S. and D. W. Dijerkman. Economic Analysis for Somalia. FT84-85 CDSS, April 1983.

Central Bank of Somalia Annual Report and Statement of Accounts, 1981. Mogadishu: Economic Research and Statistics Department, 1982.

Central Bank of Somalia. Bulletin, December 1982, No. 52. Mogadishu: Economic Research and Statistics Department, 1982.

Table 7.9

Examples of Annexes that List Individuals Interviewed

YEMEN ARAB REPUBLIC

List of Persons and Organizations Contacted

Arafat Valley Elementary School	
Hassan Musa	Acting Headmaster
Bilqis Preparatory & Secondary School, Taiz	
Anisa Shamsan A'un	Headmistress
Ali Ahmed Mohammed Awethy	Headmaster
British Council	
Peter Chenery	Director
Confederation of Yemeni Development Associations (CYDA)	
Mohamed Mohamed Sabri	Director, Foreign Affairs
Abdullah Moujahed Salem	Director, Revenues & Expenses
Mohamed Al-Haddad	Asst. Director, Foreign Affairs
Morshed Mohammed Waiss	Director of Training
Ashari Babakr	Assistant
Consortium for International Development (CID)	
O. R. Jack Law	Training Advisor
Deutsche Gesellschaft Fur Technische Zusammenarbeit (GTZ)	
Hartmut Wiegand	Director
Education Research and Development Center (ERDC)	
Mohamed al-Shaharee	Director
Abdel Rahman M. Kadok	Deputy Director & ALESCO Advisor
Waleya Abdo Mohammed	Researcher
Abdullah Noman Qaresh	Nonformal Education Officer
Taghred Abdul Hadi Shehab	Staff
Abdul Karim Hassan Kaid	Head, Teacher Training Division
Samira Abdel-Kader	School Admin. Res. Division
Taghred Abdel Hadi Shihab	Curriculum Division
Noman Ali Noman	Librarian
Mahmoud Kamal Ibrahim	Librarian

HAITI

Annex B: Interviewees

Roger Ade, Head of Production, Instructional Material Unit, National Pedagogical Institute.
Guy Alexandre, Director of Studies, Kayanou School, Port-au-Prince.
Jacques Edouard Alexis, Vice-Dean of Academic Affairs, School of Agriculture and Veterinary Medicine, State University of Haiti.
Adeline Andre, Director, CINEC Program, CARE and Ministry of Education.
Jacques Andre, Secretary General, African Studies and Research Institute, State University of Haiti.
Liliane Antoine, Executive Secretary, Rectorate, State University of Haiti.
Yolaine Armand, President, International University of Haiti.
Ragnar Arnesen, Director, Regional Office, Organization of American States.
Tim Aston, Director, CARE.

Raoul Baptiste, Head of Human Resources Division, Office of Economic and Social Programming, Ministry of Planning.
Willy Belotte, Information Officer, Haitian Association of Voluntary Organizations.
Harold Z. Berlin, Director, Dasber Inc.
Joseph C. Bernard, Principal Technical Advisor, National Pedagogical Institute.
Vanya Berrouet, Head of Evaluation Unit, National Pedagogical Institute.
Kacem Bensalah, Principal Technical Advisor, Unesco.
Wilfrid Bien-Aime, Director, Office of Economic and Social Programming, Ministry of Planning.
Sylvain Blaise, Head, Division of Education and Youth, Southern Mission, Seventh Day Adventist World Service.
Clement Blanchette, Consultant, Education Specialist, Canadian International Development Agency.
Carl Braun, Director, Capital Consults.
Dieudonne Brousseau, Oblat Fathers, Les Cayes.

Charles L. Cadet, Head, Macro-Economics Division, Office of Economic and Social Programming, Ministry of Planning.
Waner Cadet, Director, Rural Development Office, Ministry of Agriculture, Natural Resources and Rural Development.
Alfonso Camacho-Pardo, Principal Technical Advisor, International Labor Organization.
Ginette Cantave-Joseph, Director, Literacy Research and Experimentation Group, National Pedagogical Institute.
Giovanni Caprio, Economist, Office of Economic Analysis, United States Agency for International Development.
Mario Catizzone, Program Manager, Food and Agricultural Organization of the United Nations.
Marcel Cauvin, Head of Statistics Division, Office of Planning, Ministry of Education.
Robert Cheney, Chief of Party, Integrated Agricultural Development Project.
Fritz Chrisphonte, Principal, Fabre Geffrard School, Port-au-Prince.
Jean Claude, Co-Director, Centre d'Etudes Secondaires, Port-au-Prince.

Table 7.10

Example of Acronym List

Annex A: Acronyms

	ENGLISH	FRENCH
ACDI	Canadian International Development Agency (See CIDA)	Agence Canadienne de Developpement International
ADIH	Association of Haiti Industries	Association des Industries d'Haiti
AMG	Global Missionary Action	Action Missionnaire Globale
AUPELF	Association of French-Speaking Universities	Association des Universites Partiellement et Entierement de Langue Francaise
BID	Inter-American Development Bank (IDB)	Banque Interamericaine de Developpement
BIRD	International Bank for Reconstruction and Development/The World Bank (IBRD)	Banque Internationale pour la Reconstruction et le Developpement/La Banque Mondiale
CAC	Community Action Council	Conseil d'Action Communautaire
CAF	Resources Training Center	Centre d'Appui aux Formations
CAP	--	Certificat d'Aptitude Pedagogique
CAPES	--	Certificat d'Aptitude Pedagogique d'Enseignement Secondaire
CARE	Concerned Americans for Relief Everywhere	--
CENA	National Episcopal Literacy Council	Conseil Episcopal National d'Alphabetisation
CEP	Primary Education Certificate	Cerificat d'Etudes Primaires
CES	Center for Special Education	Centre d'Education Speciale
CFA	Rural Training Center	Centres de Formation Agricole et Artisanale
CFPH	Haitian Professional Training Center	Centre de Formation Professionelle d'Haiti
CFT	Technical Training Center	Centre de Formation Technique

8. PRESENTATION

This chapter of the manual suggests ways to present results of the sector assessment. The first section covers oral presentations or briefings, and the second describes the steps necessary to prepare the final written report. The third section discusses important aspects related to distribution of the completed report. These are general suggestions, and individual situations will require modified approaches to suit their specific needs.

8.1 ORAL PRESENTATION

During the preparation of the assessment, and at its conclusion, there will be many opportunities to present preliminary impressions and provisional recommendations to the advisory group that is guiding the team and to high-level policymakers and planners. Oral presentations which briefly summarize the results will be expected, even when these same individuals have been provided with advance drafts for their review. Many policymakers, and even middle-level planners during very busy periods of work, simply do not have enough time to carefully read long and detailed documents. They need clearly presented summaries. Preparation for oral presentations must be done with great care and skill so that the short amount of time available will be used most effectively. If the presentation time is limited, it is useful to rehearse the presentation so that it can be altered if necessary. Be sure to allow sufficient time for the audience to make suggestions and ask questions.

The particular audience for each oral presentation will determine the structure, details required, and emphasis given to particular aspects. It is important to prepare a written outline for an oral report prior to each meeting to ensure that the presentation is well organized and clearly covers all important points. Even experienced speakers will sometimes stray from the main points of presentations if they do not follow a carefully prepared outline. It is essential that the oral presentation begins with a brief overview and that it covers all major points of the written chapter that it summarizes.

Table 8.1 provides the first of two examples of presentation outlines. This first outline summarizes the entire Haiti sector assessment. This presentation was made to individuals responsible for policies and decisions related to funds of a major external assistance agency in Haiti. It consisted of six major sections. The first three are very general and provide background about the sector assessment: its objectives, the general focus of the recommendations, and the assessment information base. Sections 4 and 5 relate to Haiti, summarizing major policy issues facing the government and providing background information on the status of education. The 6th section summarizes the important influence of education on development. Section 7 cites the overriding issues for the education sector as discussed in the synthesis chapter of the assessment, and the final section gives the overall recommendations for the entire sector. Use of this outline as a guide for the oral presentation ensured that these important topics were covered, that decisionmakers were aware of the context and objectives of the assessment, and that the rationale for recommendations was included in the discussion of the issues. The overall recommendations were given last, so that their relationships with all of the preceding information could most easily be understood. Other topics that would probably have been of interest to listeners include a summary of the macro-economic analysis, the costs of education, and manpower supply and demand.

The second example of a presentation outline is given in Table 8.2, for a briefing on a single subsector. This presentation was made to an Interministerial Steering Committee which guided the team that conducted an assessment in Botswana. The presentation addressed the nonformal education subsector.

The discussion of this outline focuses on the purposes of each part of the presentation. The individual giving the report

Table 8.1

Presentation Outline Example for an Entire Sector Assessment (Haiti)

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1. **Objectives of the Assessment**
   - Identify, within the framework of the Government of Haiti's goals for this sector, ways to make more efficient use of Haiti's capacities and resources, both existing and new
   - Encourage an even closer coordination between the Government of Haiti and the international donor community
2. **General Focus of the Recommendations**
   - Strengthen basic education
   - Improve income-producing skills
   - Strengthen existing public and private educational institutions
   - Conduct planning surveys
   - Improve donor coordination
3. **Information Base for Assessment**
   - An eight-person team of specialists in Haiti for eight weeks
   - More than 250 interviews conducted in Haiti: Ministries of Education, Health, Planning, and Agriculture; government and private primary and secondary schools in urban and rural areas; universities and teacher training institutions; vocational and technical training schools; all major donors
   - Review of more than 200 reports and related documents
4. **Five Global Policy Issues Facing the Government**
   - Education and human resources programs must be improved but the current institutional and fiscal capacity of government cannot support the required activities
   - Coordination of activities is difficult, especially when so many are operating within the private sector
   - Economic growth cannot take place without an effective program for developing income-producing skills
   - Planning in all subsectors is hampered by a shortage of reliable and current information
   - No plan exists for the government to coordinate the many donor and private sector education and human resources activities with national development goals
5. **Status Highlights**
   - One of the poorest countries in the world, with three-fourths of its six million people below the level of absolute poverty
   - Deterioration of the natural environment by soil erosion and deforestation
   - Malnutrition, especially among children, is serious; one of the highest rates in the world
   - Human and institutional resources are seriously underdeveloped
   - Educational opportunities are severely limited and literacy was about 23 percent in 1980
   - Capacity, efficiency, and quality of education are low at all levels, with heavy dependence on the private sector
   - An Education Reform has recently begun, but needs support
   - Donor assistance is low in the education sector (5.2 percent of the total, or about $8.7 million, in 1983)

Table 8.1 (continued)

6. **Role of Education in Development**
   - Economic returns on education investments will equal or exceed investments in physical infrastructure projects
   - Education has far reaching effects, especially generalized primary: improved distribution of income, health and nutrition, and social equity
   - Formal training contributes toward developing a labor force for effective production, by transmitting appropriate attitudes, habits, and self-discipline skills
   - Worldwide comparative studies reported by the World Bank have shown that a 20 percent increase in literacy was accompanied by a 0.5 percent gain in the annual rate of growth for gross domestic product
   - Basic education to at least the fourth year of the primary cycle is widely regarded as necessary to support improvements in agriculture; four years of basic education will increase farm productivity by about 13 percent
   - Changes in social and political awareness are a significant long-term effect of education
7. **Eight Issues Discussed in the Synthesis Chapter**
   - Policy reform
   - Institutional capacity
   - Planning and management capacity
   - The private sector role
   - Resource utilization
   - Donor coordination
   - Information for planning
   - The language of instruction
8. **Recommendations Presented in the Synthesis Chapter**

   There are five recommendations and a suggested set of 14 supporting activities. They focus on the following three general areas:

   - **Contributing to National Social and Economic Development:**
     - Strengthening basic education
     - Improving income-producing skills through public and private nonformal education programs and targeted programs in vocational and technical education
     - Improving coordination of donor activities
   - **Building Capacity within the EHR Sector:**
     - Strengthening existing public and private sector educational institutions
     - Developing a targeted training program for institutional development
   - **Making More Efficient Use of Existing Resources:**
     - Increasing the availability of instructional materials
     - Improving and extending the preprimary and primary school feeding programs
     - Improving the inservice training for public and private primary school teachers
     - Conducting basic planning surveys (manpower supply and demand survey, educational management information system, identification of successful nonformal education programs, exploration of the possible wide use of educational radio for multiple purposes, examination of alternative primary-level instructional systems)

Table 8.2

Presentation Outline Example for a Single Subsector

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1. **Introduction**
   - Assessment of the nonformal education subsector
   - Definition: any learning activity outside the structure of the formal education system that is consciously aimed at meeting specific learning needs of particular subgroups in the community, be they children, youth, or adults
   - Conduct of assignment: approximately 50 individuals interviewed and 100 documents reviewed

2. **Summary of Findings for the Nonformal Education Subsector**

   2.1 **Major Strengths**
   - Variety of activities: large number of people served by a wide range of organizations and in many different subject areas
   - Active subsector: many people engaged and a large number of governmental and non-governmental organizations
   - Extremely well conceptualized and coordinated system, especially in the public sector

   2.2 **Major Issues**
   - Duplication in nongovernmental activities
   - Nongovernmental activities do not always support national goals even though they may use government funds
   - Less expensive training in the Ministry of Health is much more efficient and effective than training provided by Ministry of Agriculture
   - Rural Extension Coordination Committee has important task but no power to ensure that its policies are carried out

   2.3 **Conclusions**
   - The data base on nonformal education activities is insufficient
   - Most nonformal education programs are not linked closely to employment opportunities
   - Nonformal education is not well coordinated internally or well integrated with formal education
   - The research and evaluation capabilities related to nonformal education need to be strengthened
   - Manpower needs for nonformal education are not well defined
   - Training of fieldworkers appears to be in need of evaluation
   - Procedures for recruiting and placing nonformal education fieldworkers are not optimal
   - Linkages among research, training, and information dissemination are weak or lacking
   - Some existing policies complicate nonformal education activities, particularly in income generation

Table 8.2 (continued)

2.4 Recommendations

2.4.1 External Efficiency

- Link nonformal education programs more directly to employment opportunities and activities that contribute to a better quality of life
- Evaluate need for a bridging program from the National Literacy Programme to the Secondary School Correspondence Programme and desirability of offering formal education through the Department of Non-Formal Education

2.4.2 Internal Efficiency

- Design and institute a mechanism for collecting and storing relevant data on nonformal education programs
- Evaluate training in the different cadres and develop a better mechanism for recruiting and placing fieldworkers
- Address the extent to which the nonformal education projects and activities of nongovernmental organizations fit government's priorities
- Use nonformal education more extensively as a forum for pilot activities to develop new methodologies
- Begin dialogue to alter conflicting government policies that hamper development of small business in the rural areas
- Improve the integration of formal and nonformal education

2.4.3 Administration and Supervision

- Provide district and village level workers with training in administration and management
- Develop Botswana's research capacity in relation to nonformal education

2.4.4 Access and Equity

- Conduct small-scale needs assessments to identify the kinds of nonformal education activities desired by particular subgroups of Batswana

2.4.5 Costs and Financing

- Develop and institute mechanisms for data collection on investments in, and costs of, nonformal education activities should begin with a concise description of the assignment to set the context for the more focused information to follow. This introduction should include which subsector is under discussion, what is included in the subsector, and which data sources were used for the subsector assessment (see the last point of Section 1 of the Table 8.2 sample outline).

A major part of the presentation consists of a summary of the results. It is important to cover four basic topics in relation to the findings that follow from the assessment of the subsector: major strengths, major issues, conclusions, and recommendations. Section 2 of the outline addresses the summary of findings.

It is important to begin with a recognition of the strengths and major achievements in the subsector that have become evident as a result of the assessment. Changes are generally based on improving what already exists. For this reason it is essential to present a clear and complete description of the foundation.

The part of the presentation that summarizes the issues that have emerged through the assessment process is critical. It has to be well organized and logical, with the salient points made clearly and concisely. The presenter must be very sensitive to local issues and concerns while addressing issues that may be associated with strong feelings among members of the audience. A lack of sensitivity might mean that the identified ideas and suggestions are not accepted, even though they may be valid and accurate.

The conclusions should follow logically from the data that are cited. The rationale for each conclusion should be presented so that it is easy to understand why it was reached. The recommendations should follow logically from the conclusions. In making recommendations it is important to use a speaking tone that is not imperative, indicating a willingness to incorporate suggestions and concerns of those listening to the presentation. This presentation would have been strengthened by inclusion of a summary of the costs of inputs to incorporate suggestions and concerns of those listening to relation to outputs.

It is essential to allow sufficient time at the end of the presentation for questions and discussion. The concerns or clarifications may not be resolved during the presentation, but members of the audience can direct the assessor to other individuals, institutions, or documents for additional information. For example, during the presentation that was made from this outline two comments were raised by members of the Interministerial Reference Group. These related to the role of nonformal education in citizenship education and in language training for Batswana not fluent in the national language (Setswana).

Assessors should recognize that the presentation is an excellent opportunity to listen to all comments and suggestions in response to the presentation. It is often difficult to be a good listener and not argue when others make points that you disagree with. Those providing guidance often have important and different points of view which should be considered when revising the report. It is advisable to take careful notes on comments and suggestions that are made, including who contributed them, so that it is possible to follow up on them later, if necessary.

Assessors must also be familiar enough with the work that they have done so that they can respond to questions asked during the oral presentation. It is also advisable to note all questions asked during a review to ensure that they are covered in sufficient detail in the revised assessment document.

8.2 PRODUCING THE ASSESSMENT DOCUMENT

It is the responsibility of each team member to give the team leader a draft document based on the work conducted during the assignment. This draft should contain all the material that was agreed upon in the terms of reference, presented in the appropriate format. The team leader is ultimately responsible for the substance of the entire sector assessment document.

The team leader is also responsible for ensuring that the final document is produced. The last production stage is difficult and time consuming, particulary if the assessment is extensive. It will involve retyping all chapters, for example, if word processing is not available at the draft preparation stage. At a minimum, it should include a careful review of each chapter to ensure that it is consistent and accurate; that all the tables and charts are clear, accurate, and appropriately marked; that it is well organized; and that there are no typographical errors. It should be carefully edited and professionally presented to encourage its widespread use.

8.3 DISTRIBUTION

Data and analysis on the education sector are of no value unless they are available for use. Thus, distribution of the assessment document is an extremely important part of the assessment process. This is ultimately the responsibility of the organization that sponsored its preparation. If a comprehensive sector assessment has been conducted, it is recommended that it be available to all involved in education, including representatives of public, private, and external assistance agency institutions. It is important for the team to prepare a list of individuals and organizations whom it feels should receive copies of the assessment document. The sponsoring organizations will determine the order and manner in which distribution will occur, and decide who will be responsible for this activity.

Who should receive copies of the document will vary from country to country. The following categories of recommended potential recipients are given for illustrative purposes. The list should include a wide range of individuals from the ministry of education, or its equivalent. There are probably several individuals from other ministries who should also receive copies. Such ministries might include finance, planning, information, and statistics. At least parts of the sector assessment document should be shared with representatives of other ministries who have a significant role in educational activities. For example, the ministries of health and education could probably use the chapter on nonformal education and, if formal education activities are decentralized, other government agencies should probably be included.

Private and external assistance agencies engaged in the education sector should not be overlooked. Many educational activities are conducted through private sector proprietary and voluntary organizations and it is essential that they be included if the education sector is to be regarded as a system by all involved. Resources can be used more efficiently if there is coordination among all individual and institutional stakeholders involved in education. For this reason it is important for external assistance agencies to be included on the distribution list. Other organizations with resource centers, such as university libraries, national libraries, and research centers should also receive copies.

9. OUTCOMES

This chapter responds to anticipated questions readers might have regarding the outcomes following actual applications of sector assessments. Is there any evidence, for example, that recommendations firmly based on data can initiate changes that improve education systems? Recent experience with sector assessments has demonstrated positive effects on educational change in several countries. This chapter of the manual addresses this topic.

9.1 EXAMPLES OF SECTOR ASSESSMENT OUTCOMES

This section summarizes activities that have occurred in Somalia and Botswana in response to recommendations of sector assessments. These assessments were sponsored by the Office of Education in the Bureau for Science and Technology of the Agency for International Development and were conducted by teams of external consultants working with local colleagues in Somalia and Botswana. This chapter is based on a report prepared by Windham in 1985 (*Improving the Efficiency of Educational Systems [IEES] Project: Background, Activities, and Accomplishments*).

- **Somalia**. A sector assessment was conducted in Somalia in 1984. It had a dramatic impact on policy review due to two factors. The first was the active participation of government officials and representatives of major external assistance agencies in the planning, conduct, and review of the assessment. The second was the strong motivation of the Somali government to resolve the severe inefficiencies in the education system. This motivation was further heightened by the internal and external economic pressures on the national economy in the 1983-1984 period. Although the direct effect of the assessment on specific policy changes was variable, the assessment had at least a facilitating influence, and sometimes a decisive influence, on these changes. The major policy changes associated with the assessment are the resolutions presented in Table 9.1. The table shows that responses to the assessment resulted in policy changes in a wide variety of areas throughout the education sector.

The single recommendation that received the strongest support from government was the need to study and reform the national system of administration and management. In response to this recommendation, the Ministry of Labour and Social Affairs agreed to conduct a Civil Service Study (CSS) with technical assistance from the United States. The study was designed to have direct participation by the Ministries of Finance and of National Planning. To support the CSS, a team of technical experts worked closely with the Ministry of Labour and Social Affairs technical staff.

The final report on the CSS was published by the Ministry of Labour and Social Affairs in September, 1984. Table 9.2 summarizes the eleven recommendations in four policy areas identified by this study: organization and management; personnel administration; compensation and staffing; and training. In addition, detailed recommendations were provided for each of the four areas, with a suggested implementation schedule.

During the preparation of the CSS report, there was a major reassignment of government staff. Of most relevance to the assessment outcomes was the replacement of all senior staff in the Ministry of Labour and Social Affairs. The strong commitment of government to the issues identified in the assessment was demonstrated by the fact that the new Minister of Labour and Social Affairs promptly organized a national symposium to study civil service development. The symposium, held September 25-27, 1984, was opened with a strong supporting speech by the President of Somalia. The symposium was attended by senior-level representatives of all ministries, autonomous agencies, the Somali Revolutionary Socialist Party, and the People's Assembly, as well as private sector leaders. Government participation was at the level of Permanent Secretaries, Vice Ministers, and Ministers. A total of 130 officials attended. There was particularly strong participation by the Ministries of National Planning, Commerce, Education,

Table 9.1

Somalia's Policy Responses to the Education Sector Assessment

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Abandon guaranteed employment for all secondary school graduates

End employment of redundant teachers seconded to the Ministry of Education

Upgrade and expand the Ministry of Education planning and statistics staff

Establish a Human Resources Department at the Ministry of National Planning

Improve private sector development incentives

Improve primary education instructional quality and access

Emphasize quality vs. expansion in secondary education

Assess needs for secondary vocational and technical programs

Develop regional and international perspective on labor markets for vocational and technical graduates

Explore radio alternatives to improve teacher training and adult basic education

Initiate review and reform of the civil service system

Table 9.2

Somalia Civil Service Study Recommendations

Organization and Management

- Establish a Civil Service Commission
- Reorganize the Ministry of Labor and Social Affairs
- Restructure other ministries to have a permanent secretary/director general format
- Authorize establishment of a unit for bureaucratic reform

Personnel Administration

- Rationalize assignment and promotion
- Decentralize selection to employing units

Compensation and Staffing

- Identify redundant workers and phase their termination
- Reform salaries with phased increases

Training

- Create a National Training Council
- Emphasize participant and action-oriented training
- Train senior ministry officials in general management

---

and, of course, Labour and Social Affairs, as well as most of the members of the Central Committee. At this symposium the Minister of Labour and Social Affairs reviewed the Civil Service Study, noting that the government is committed to greater efficiency in the civil service as a way to achieve national development objectives.

While government was responding to the CSS, a project for management training was being prepared by the USAID Mission. The Mission and the government of Somalia decided to sponsor the Somali Management Training and Administrative Development (SOMTAD) Project, to begin in 1986. The SOMTAD Project is designed to provide both formal and on-the-job management training for government and private sector administrative staff, while improving the training and research capabilities of the Somali Institute of Development Administration and Management.

Following the symposium, the Somali government proceeded to reduce the size of the civil service. Most released workers receive one year of salary plus training opportunities and/or land for agricultural development. In addition, the salary reform plans recommended in the CSS are being actively discussed by the Somali Parliament.

- **Botswana**. Because of the close collaborative work between the assessment team staff and the personnel of the government education agencies, and because of the cooperation of major external assistance agencies in Botswana, the sector assessment had a dramatic impact on policy. As indicated in Table 9.3, a large number of the major recommendations in the report have led to significant new activities. These have included activities in primary education, junior secondary education, vocational and technical education, private sector participation in education, teacher training, and management training.

Following the completion of the sector assessment, additional technical assistance in the areas of planning, research, and evaluation has been available to both the local USAID Mission and the government of Botswana. This assis-

Table 9.3

Botswana's Policy Responses to the Education Sector Assessment

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Primary Education

- Design PEIP phase II
- Revise curriculum
- Improve materials distribution

Junior Secondary Education

- Design JSEIP
- Develop and disseminate new curriculum
- Construct new schools
- Standardize school financing

Vocational and Technical Education

- Plan to open four Vocational Training Centres (VTC)
- Plan to recruit VTC students from Form II rather than Standard 7
- Enhance labor market information
- Focus programs at Polytechnic and Automotive Training Centre
- Implement Apprenticeship Bill

Private Participation

- Forge Government-community partnership at junior secondary level
- Use private sector facilities and personnel via Apprenticeship Bill

Teacher Training

- Open College of Education at Molepole
- Revise University of Botswana teacher training program
- Improve inservice programs as part of JSEIP and PEIP II

Management Training

- Develop cooperation among IDM, BP, BIAC, and UB

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tance improved USAID-supported activities such as the Primary Education Improvement Project (PEIP), the Junior Secondary Education Improvement Project (JSEIP), and the Botswana Workforce and Skills Training (BWAST) Project.

Consultants assisted the USAID Mission with the design of the Junior Secondary Education Improvement Project (JSEIP). Its purpose is to increase the quality and efficiency of an expanded junior secondary basic education system and to strengthen the capacity of the Ministry of Education to develop, manage, and support that system.

A technical advisory team worked in Botswana during 1984 to assist the Mission with the design of JSEIP. In April 1985, the JSEIP project was formally agreed upon by representatives of USAID and the government of Botswana.

In early 1985, the USAID Mission requested additional information regarding an update of the information in the 1983 sector assessment. In defining the scope of work for the update, three areas were identified where substantial changes had occurred since the original assessment, or where more detail was needed than provided by the initial study. Updated reports were prepared for three areas: the economic and financial status of the sector; teacher training; and the primary and secondary education curriculum.

More current information on economic and financial issues was needed because of the major economic changes during the 18 months following the initial assessment. Also, preparation of the Sixth National Development Plan following the initial assessment provided more detailed and current information for projected development expenditures and recurrent expenditures.

The decision to update information in the areas of teacher training and curriculum was made because of the continued policy concern for educational quality and the changes in the primary and secondary education systems. The scheduling of this analysis was especially critical because of the implementation of the new junior secondary curriculum, planned changes in the structure of secondary education, and improvement in the teacher training system.

The work on the sector assessment update took place under the direction of a government reference group. It was chaired by the Ministry of Education and included participants from the Ministry of Finance and Development Planning, the Ministry of Home Affairs, the Ministry of Local Government and Lands, the University of Botswana, and USAID. A draft of the *Botswana Education and Human Resources Sector Assessment Update (June 1985)* was reviewed in Botswana in November 1985 by the reference group. A final version was prepared following this review.

9.2 FINAL NOTE

This manual is presented as a *tool* for assisting with policy development and planning to support improved allocation of educational resources. As with any tool, it should be used to the extent that it is useful and should be adapted as necessary. Experience from several countries that have used this approach demonstrates its utility for supporting improved policies, planning, and management in the education sector. It is the authors' hope that others will use and adapt this approach as they strive to improve education in their own countries and contexts.

BIBLIOGRAPHY

Academy for Educational Development. *Guatemala Education Sector Assessment.* Washington, D.C.: Academy for Educational Development. 1978.

Academy for Educational Development. *Nonformal Education: A Decade of Experience.* Washington, D.C.: Academy for Educational Development. n.d.

Academy for Educational Development. *Paraguay Education Sector Assessment, 1977.* Washington, D.C.: Academy for Educational Development. 1977.

Adams, Emily Vargas and Bastian, M. Joseph. *Non-Formal Education in Lesotho: A National Study for Policy Planning and Program Development.* Washington, D.C.: Agency for International Development, Bureau of Science and Technology. 1983.

Agency for International Development, Bureau for Program and Policy Coordination. *A.I.D. Policy Paper: Basic Education and Technical Training.* Washington, D.C.: Agency for International Development. 1982.

Agency for International Development, Bureau for Latin America. *Educacion No Formal.* Documento Metodologico de Trabajo #7. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1977.

Bereday, George Z. F. and Laureys, Joseph A. *Educational Planning.* London: Evans Brothers. 1967.

Blair, Philip M. *Comments on Education Sector Analysis: Methodological Working Documents Nos. 18, 19, and 20.* Discussion Paper No. 7. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1974.

Botswana, Department of Non-Formal Education and Creative Associates, Inc. *An Assessment and Analysis of Non-Formal Education in Botswana.* Gaborone: Government of Botswana. 1983.

Botswana, Ministry of Finance and Development Planning and the Interministerial Steering Committee with USAID. *Botswana: Education and Human Resources Sector Assessment, June 1984.* Gaborone: Government of Botswana. 1984.

Cain, Bonnie J. *Nonformal Education Assessment/Analysis Model.* Washington, D.C.: Creative Associates, Inc. n.d.

Cieutat, Victor J. *Planning and Managing an Education Sector Analysis.* Washington, D.C.: United States Agency for International Development. 1983.

Diebold de Cruz, Paula, ed. *Executive Summary of the El Salvador Education Sector Analysis.* Washington, D.C.: Academy for Educational Development. 1978.

Economic Development Institute. *Education Policy Analysis: The Jordan Case. An Activity-Oriented Approach.* Washington, D.C.: The World Bank. 1986.

Economic Development Institute. *Education Policy Analysis: The Jordan Case. Instructor's Guide.* Washington, D.C.: The World Bank. 1986.

Economic Development Institute. *Education and Training Design: Review of Activities in FY86.* Washington, D.C.: The World Bank. 1986.

Education and World Affairs, Committee on Human Resource Development. *Nigerian Human Resource Development and Utilization.* New York: Education and World Affairs. 1967.

Evans, David R. *The Learning Opportunities Inventory: Preparing Comprehensive Inventories in the Field of Education.* Paris: International Institute for Educational Planning. 1983.

Federal Ministry of Education. *Investment in Education.* Report of the Committee on Post-School Certificate and Higher Education in Nigeria. Lagos: Federal Ministry of Education. 1960.

Foster, Philip. *Education in Sub-Saharan Africa: Some Preliminary Comments. (Draft).* Unpublished paper. 1985.

Fuller, Bruce. *Raising School Quality in Developing Countries: What Investments Boost Learning?* World Bank Discussion Paper No. 2. Washington, D.C.: The World Bank. 1986.

Harbison, Frederick H. *Education Sector Planning for Development of Nation-Wide Learning Systems.* OLC Paper No. 2. Washington, D.C.: American Council on Education, Overseas Liaison Committee. 1973.

Harbison, Frederick H. *The Development of Nation-Wide Learning Systems: A Sector Approach for Assessment of National Development from a Human Resources Perspective.* Washington D.C.: Agency for International Development, Technical Assistance Bureau. 1973.

Harbison, Frederick H. *Human Resources as the Wealth of Nations.* New York: Oxford University Press. 1969.

Harbison, Frederick H. *A Human Resource Approach to the Development of African Nations.* Washington, D.C.: American Council on Education. n.d.

Heyneman, Stephen P. and White, Daphne Siev. Eds. *The Quality of Education and Economic Development.* Washington, D.C. : The World Bank. 1985.

Hultin, Mats. *Guidelines for Education Sector Work (Office Memorandum).* Washington, D.C.: The World Bank. 1978.

Hurtubise, Rolland. *Managing Information Systems: Concepts and Tools.* West Hartford, Connecticut: Kumarian Press. 1984.

Improving the Efficiency of Educational Systems. *Project Description (Draft).* Tallahassee, Florida: Learning Systems Institute. n.d.

Improving the Efficiency of Educational Systems Project in collaboration with the Ministry of National Education of the Republic of Haiti. *Haiti: Education and Human Resources Sector Assessment.* Tallahassee, Florida: Learning Systems Institute. 1987.

Indonesia, Ministry of Education and Culture with the United States Agency for International Development. *Indonesia: Education and Human Resources Sector Review.* Jakarta: Ministry of Education and Culture. 1986.

International Institute for Educational Planning. "The Diversification of the Educational Field" in *The Prospects of Educational Planning Related to Contemporary Development Problems.* Working Paper IIEP/S92/1E. Paris: International Institute for Educational Planning. 1983.

Klaus, David J. *Instructional Innovation and Individualization.* Pittsburgh, Pennsylvania: American Institutes for Research. 1969.

Lesotho, Ministry of Education, Sports and Culture. *The Education Sector Survey: Report of the Task Force.* Maseru: Government of Lesotho. 1982.

Levin, Henry M. *Cost Effectiveness : A Primer.* New Perspectives in Evaluation Volume 4. Beverly Hills, London, New Delhi: Sage Publications. 1983.

Liberia, Ministry of Finance and Economic Affairs: Joint Committee for the Government of Liberia/USAID Education, Training, and Human Resources Assessment. *Liberia: Education* *and Training Sector Assessment.* Monrovia: Government of Liberia. 1983.

Method, Francis J. and Shaw, Saundria K. *AID Assistance to Education: A Retrospective Study.* Washington, D.C.: Creative Associates, Inc. n.d.

Morgan, Robert M. and Chadwick, Clifton B. *Systems Analysis for Educational Change: The Republic of Korea.* Tallahassee, Florida: Florida State University. 1971.

Nepal, His Majesty's Government, Ministry of Education and Culture with the United States Agency for International Development. *Nepal : Education and Human Resources Sector Assesment.* Kathmandu : Ministry of Education and Culture. 1988.

Niehoff, Richard O. *Educational Alternatives in National Development: Suggestions for Policy Makers.* Supplementary Paper No. 4. East Lansing, Michigan: Institute for International Studies in Education, Michigan State University. 1976.

Overseas Liaison Committee. *Tanzania: A Nation-Wide Learning System.* New York: American Council on Education. 1971.

Robinson, Brandon. *On Methodology for Education Sector Analysis.* Washington, D.C.: Agency for International Development, Bureau for Latin America. 1975.

Robinson, Brandon. *Some Special Problems and Characteristics of an Education Sector Analysis.* Methodological Working Document No. 18. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1973.

Robinson, Brandon. *A Brief Description of an Educational Sector Analysis Methodology.* Methodological Working Document No. 19. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1973.

Robinson, Brandon. *Questions and Answers Concerning Methodological Working Document #19, "A Brief Description of an Education Sector Analysis Methodology".* Methodological Working Document No. 20. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1973.

Robinson, Brandon. *A Preliminary Examination of a Limited Collection of Statistics for the Analysis of the Education Sector in Panama.* Analytical Working Document No. 7. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1972.

Robinson, Brandon. *Some of the Limitations of Education Sector Analysis.* Methodological Working Document No. 21. Washington, D.C.: Agency for International Development, Bureau for Latin America. 1974.

Rural Non-Formal Education: Inventory and Assessment of Non-Formal Education in Paraguay. Mimeograph. n.d.

Somalia, Ministry of National Planning with USAID. *Somalia: Education and Human Resource Sector Assessment.* Mogadishu: Government of the Somali Democratic Republic. 1974.

Unesco. *International Standard Classification of Education.* Vols. 1 and 2. COM/ST/ISCED. Paris: Unesco. 1976.

Unesco. *Manual for the Collection of Adult Education Statistics.* CRS/E/15. Paris: Unesco. 1975.

Wheeler, David. *Human Resource Development and Economic Growth in Developing Countries: A Simultaneous Model.* World Bank Staff Working Paper No. 407. Washington, D.C.: The World Bank. 1980.

Windham, Douglas. *Improving the Efficiency of Educational Systems (IEES) Project: Background, Activities, and Accomplishments.* Unpublished paper. 1985.

Windham, Douglas. *Indicators of Educational Effectiveness and Efficiency.* Tallahassee, Florida: Florida State University. 1988.

Windham, Douglas. *Internal Efficiency and the African School (Draft).* Unpublished paper. 1985.

World Bank. *Financing Education in Developing Countries : An Exploration of Policy Options.* Washington, D.C.: The World Bank. 1986.

World Bank. *Education Sector Policy Paper.* Washington, D.C.: The World Bank. 1980.

World Bank. *World Development Report 1984.* Washington, D.C.: The World Bank. 1984.

Yemen Arab Republic, Educational Research and Development Center and the USAID Improving the Efficiency of Educational Systems Project. *Yemen Arab Republic: Education and Human Resources Sector Assessment, January 1986.* Tallahassee, Florida: Florida State University. 1986.